

Three Layer Fresnel Reflection Coefficients

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0.1 Metal-BK7-Air

0.1.1 Ag-BK7-Vacuum

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{BK7}, \epsilon_2 = \text{Ag}, \epsilon_3 = \text{Vacuum}$$

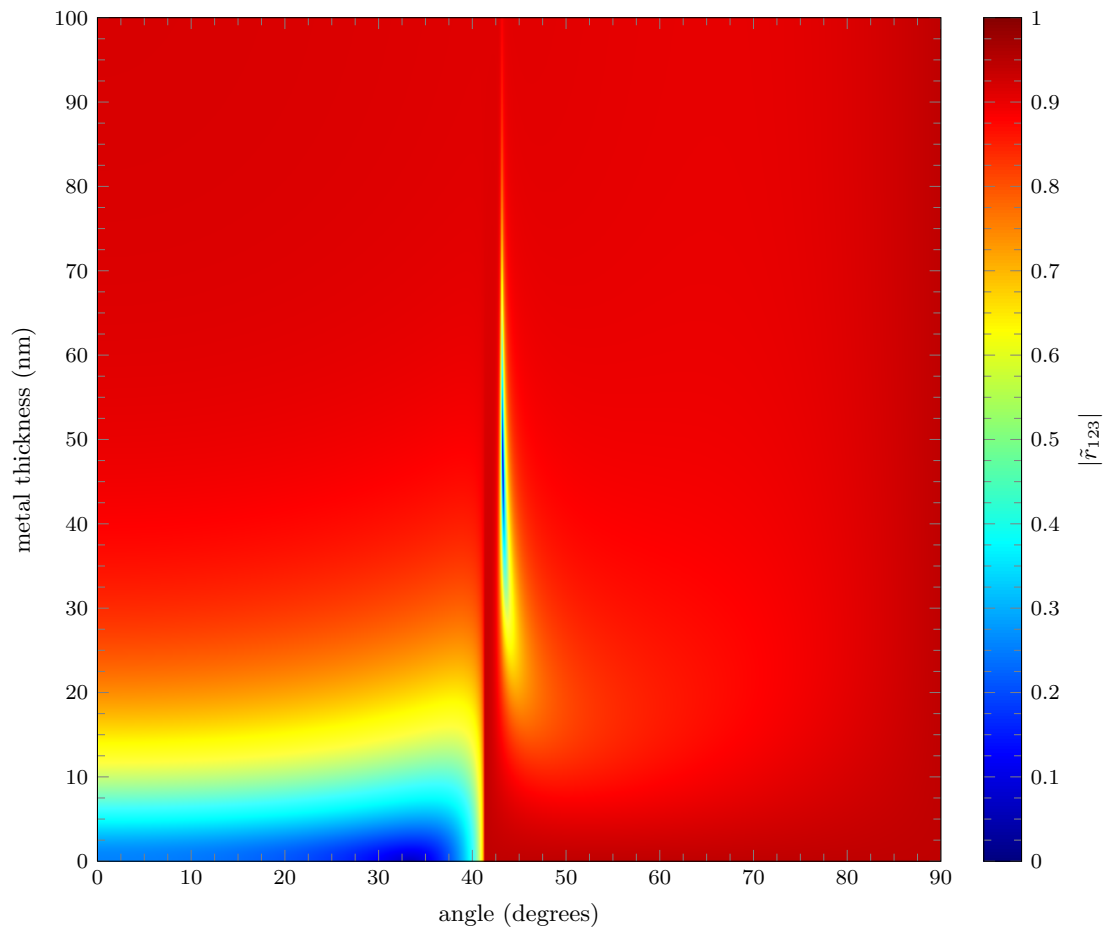


Figure 1: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Ag-BK7-Vacuum) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.1.2 Al-BK7-Vacuum

$\lambda_0 = 632.8 \text{ nm}$, $\epsilon_1 = \text{BK7}$, $\epsilon_2 = \text{Al}$, $\epsilon_3 = \text{Vacuum}$

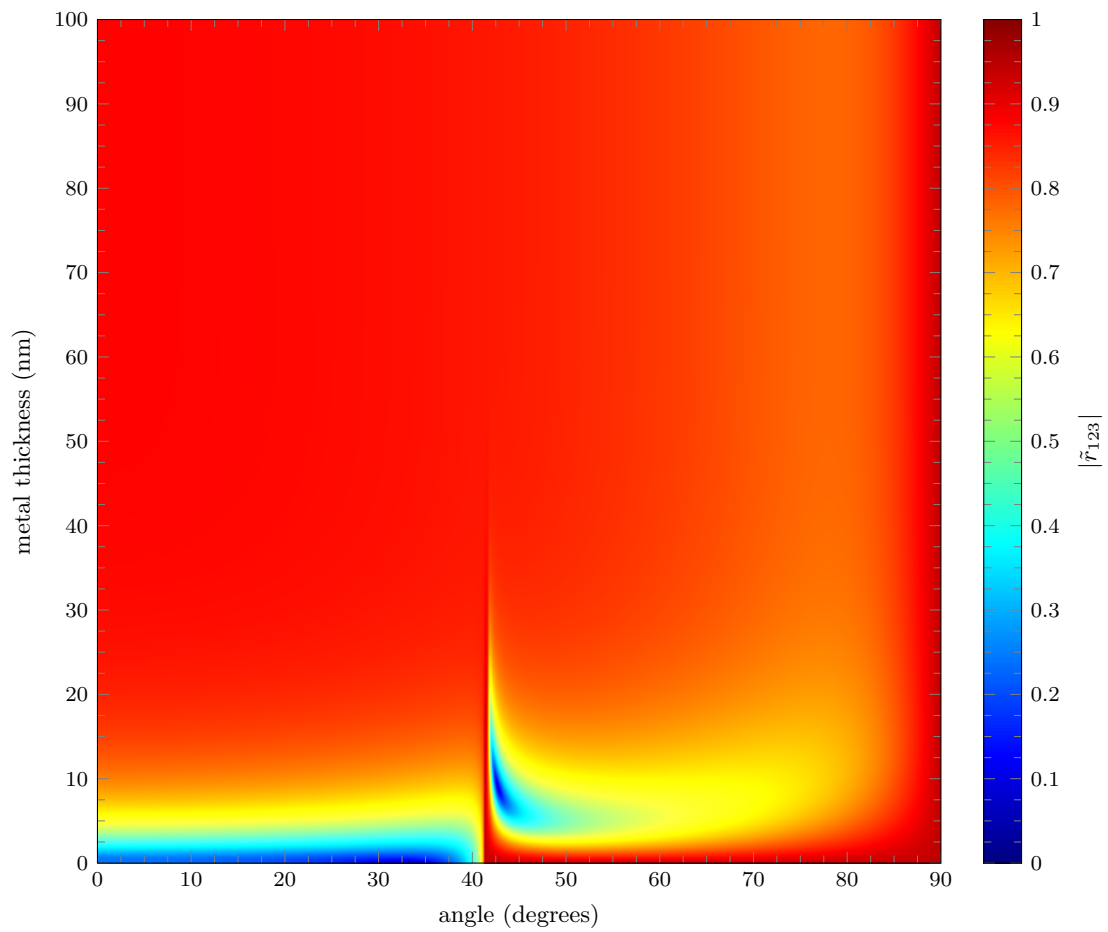


Figure 2: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Al-BK7-Vacuum) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.1.3 Au-BK7-Vacuum

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{BK7}, \epsilon_2 = \text{Au}, \epsilon_3 = \text{Vacuum}$$

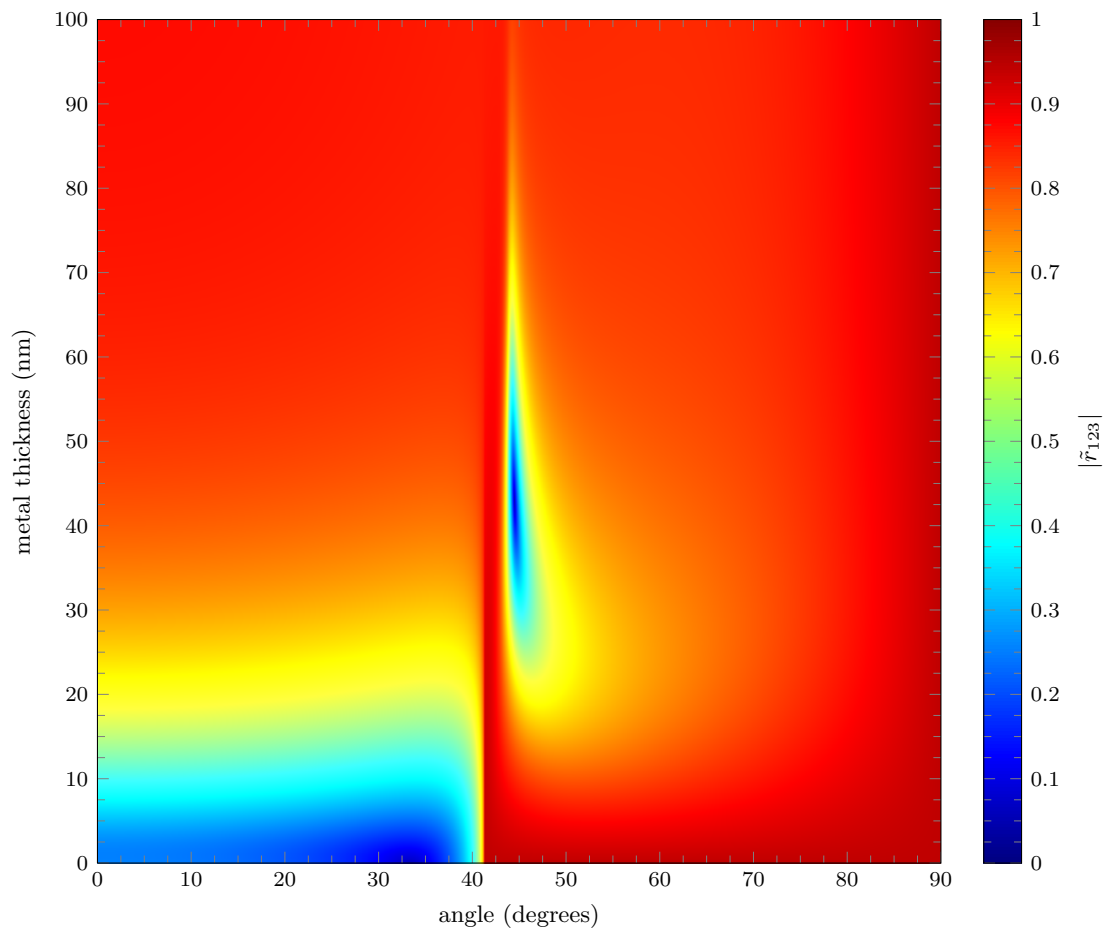


Figure 3: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Au-BK7-Vacuum) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.1.4 Be-BK7-Vacuum

$\lambda_0 = 632.8 \text{ nm}$, $\epsilon_1 = \text{BK7}$, $\epsilon_2 = \text{Be}$, $\epsilon_3 = \text{Vacuum}$

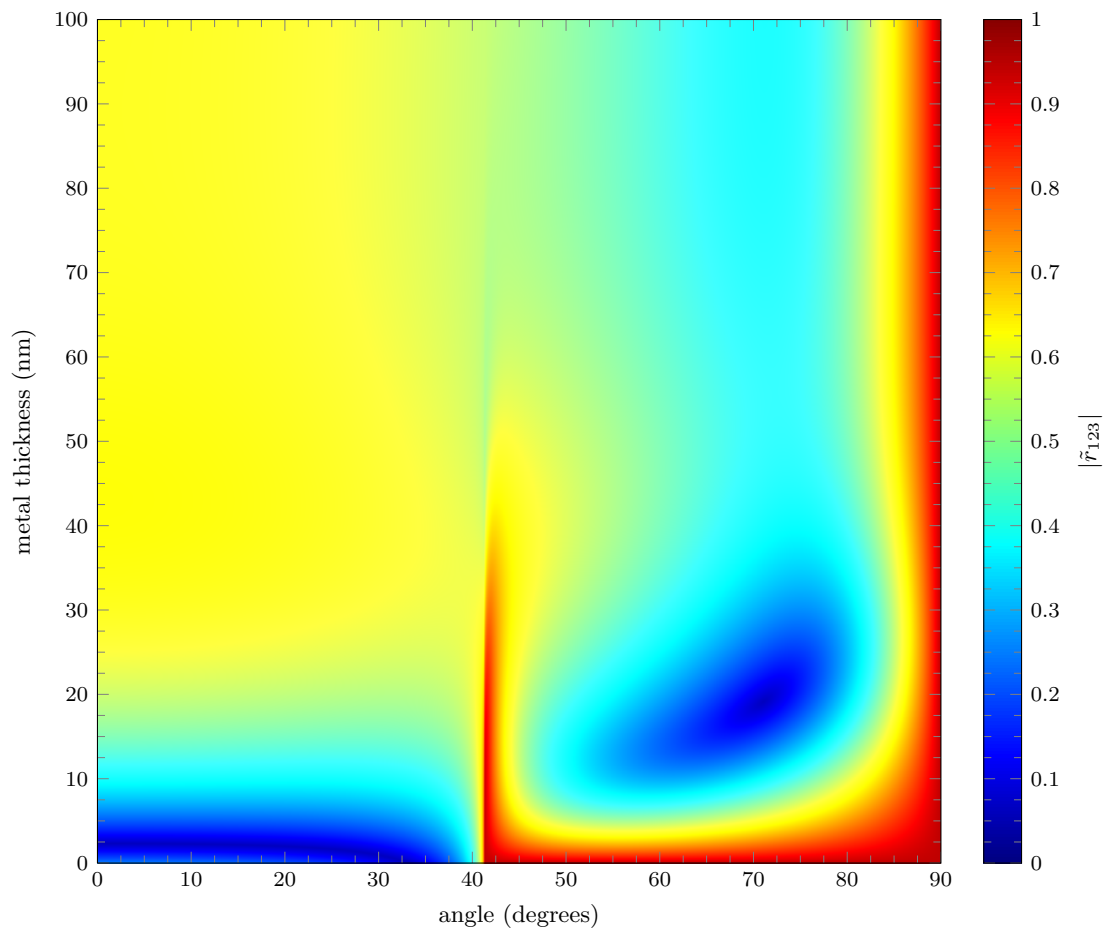


Figure 4: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Be-BK7-Vacuum) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.1.5 Cr-BK7-Vacuum

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{BK7}, \epsilon_2 = \text{Cr}, \epsilon_3 = \text{Vacuum}$$

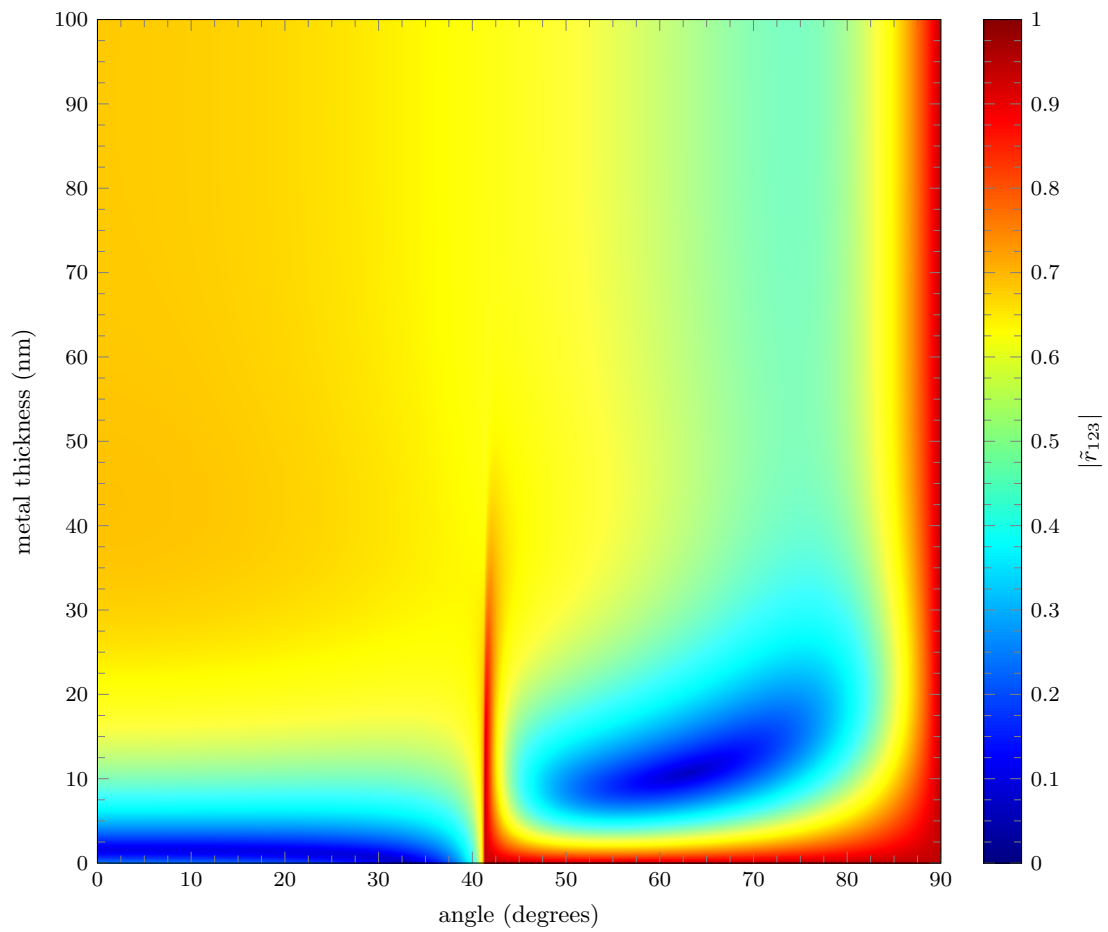


Figure 5: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Cr-BK7-Vacuum) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.1.6 Cu-BK7-Vacuum

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{BK7}, \epsilon_2 = \text{Cu}, \epsilon_3 = \text{Vacuum}$$

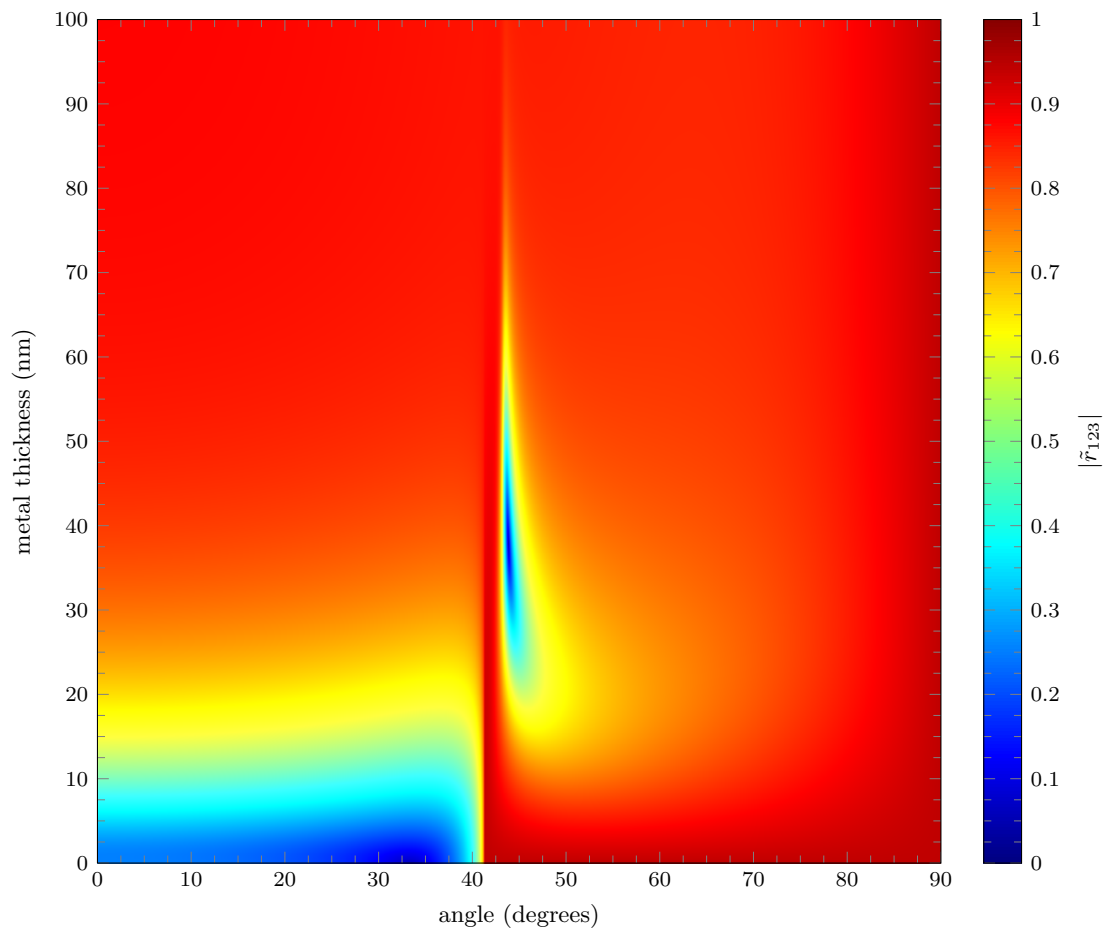


Figure 6: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Cu-BK7-Vacuum) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.1.7 Ni-BK7-Vacuum

$\lambda_0 = 632.8 \text{ nm}$, $\epsilon_1 = \text{BK7}$, $\epsilon_2 = \text{Ni}$, $\epsilon_3 = \text{Vacuum}$

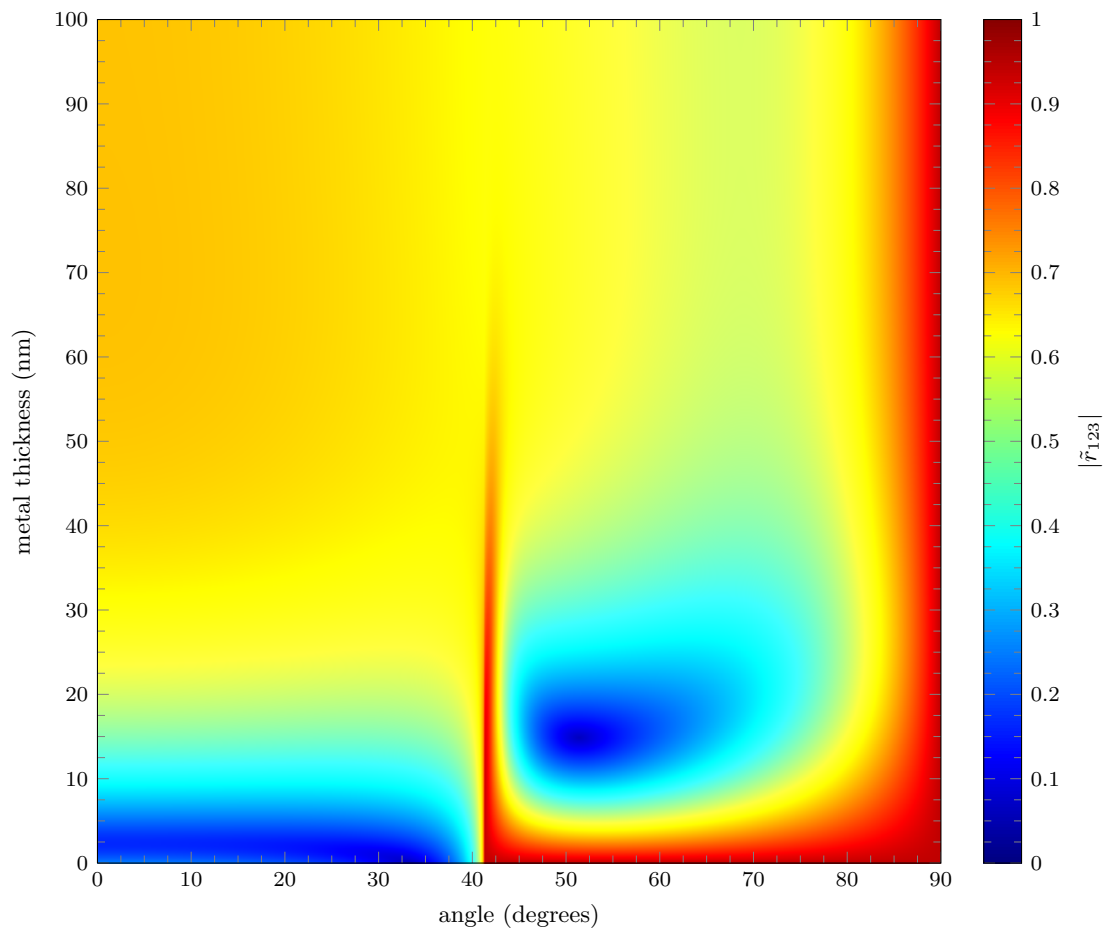


Figure 7: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Ni-BK7-Vacuum) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.1.8 Pd-BK7-Vacuum

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{BK7}, \epsilon_2 = \text{Pd}, \epsilon_3 = \text{Vacuum}$$

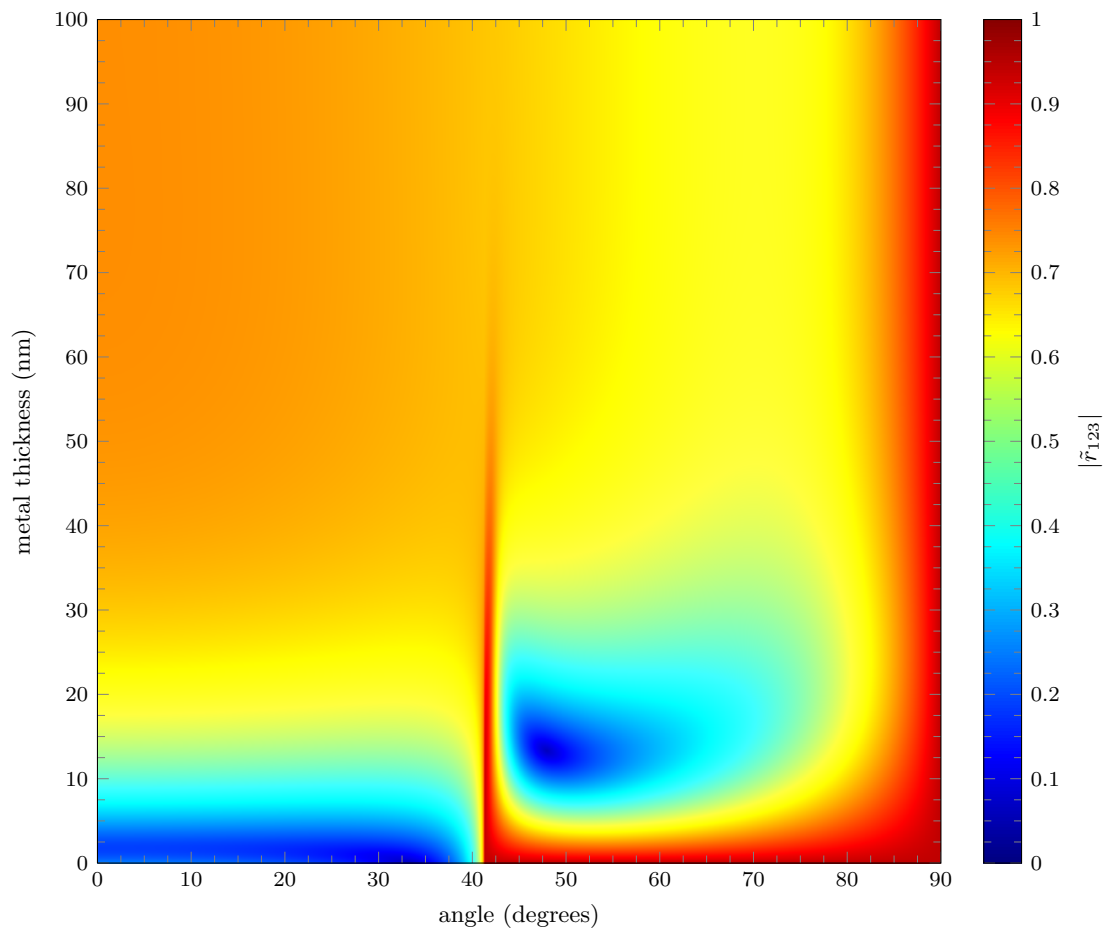


Figure 8: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Pd-BK7-Vacuum) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.1.9 Pt-BK7-Vacuum

$\lambda_0 = 632.8 \text{ nm}$, $\epsilon_1 = \text{BK7}$, $\epsilon_2 = \text{Pt}$, $\epsilon_3 = \text{Vacuum}$

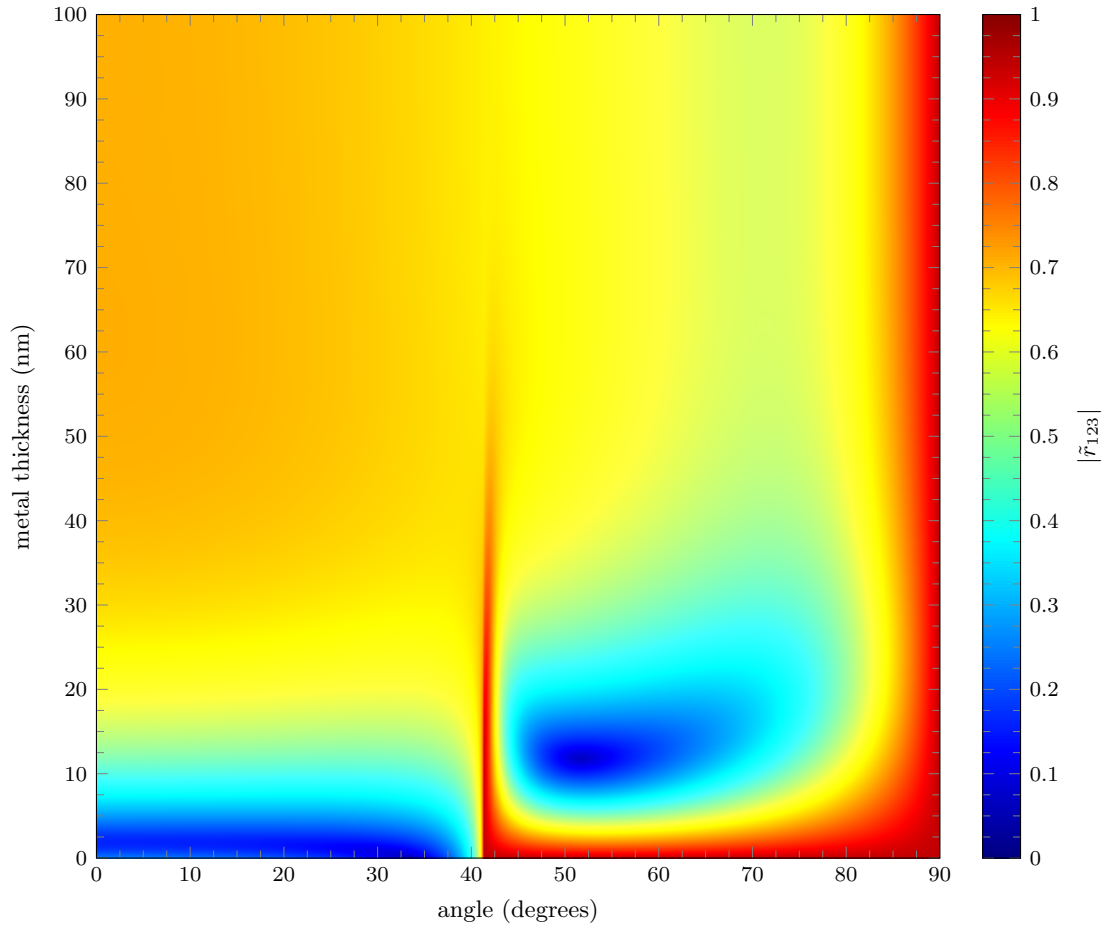


Figure 9: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Pt-BK7-Vacuum) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.1.10 Ti-BK7-Vacuum

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{BK7}, \epsilon_2 = \text{Ti}, \epsilon_3 = \text{Vacuum}$$

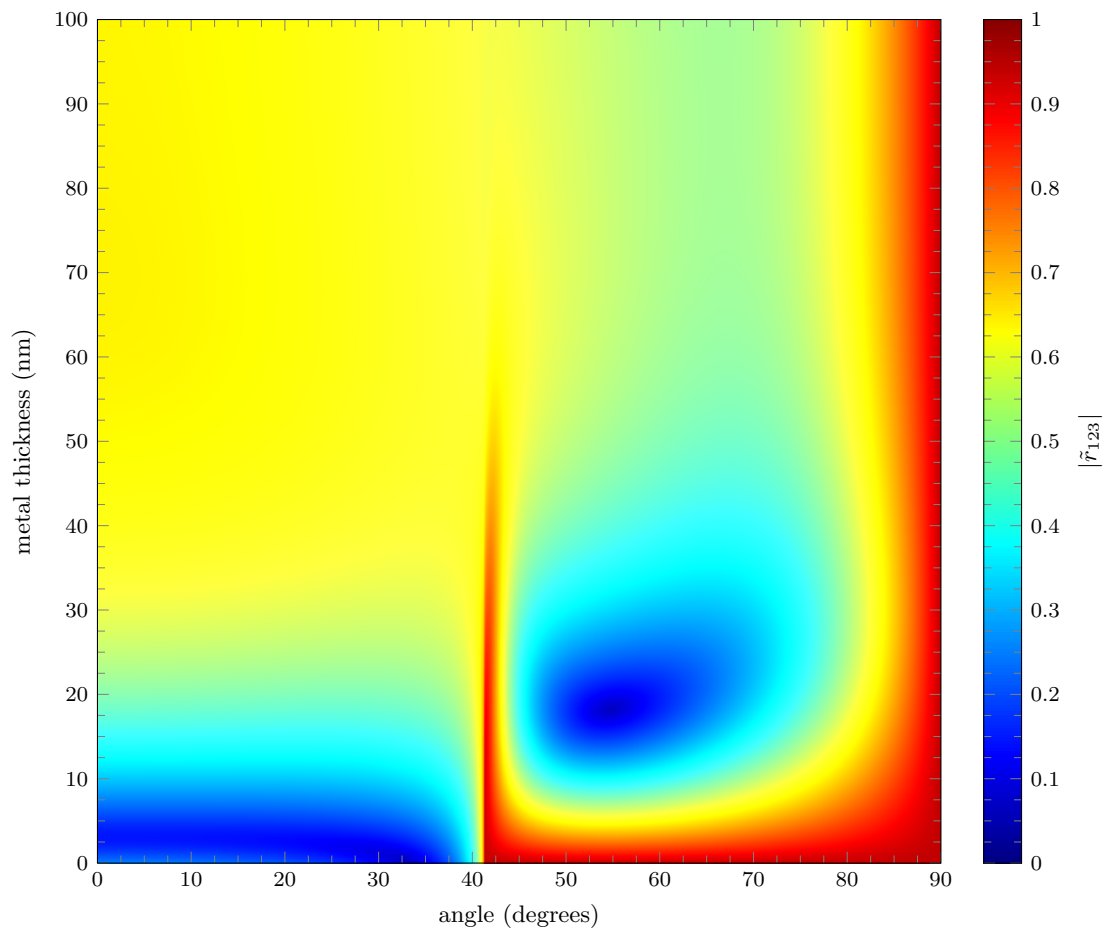


Figure 10: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Ti-BK7-Vacuum) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.1.11 W-BK7-Vacuum

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{BK7}, \epsilon_2 = \text{W}, \epsilon_3 = \text{Vacuum}$$

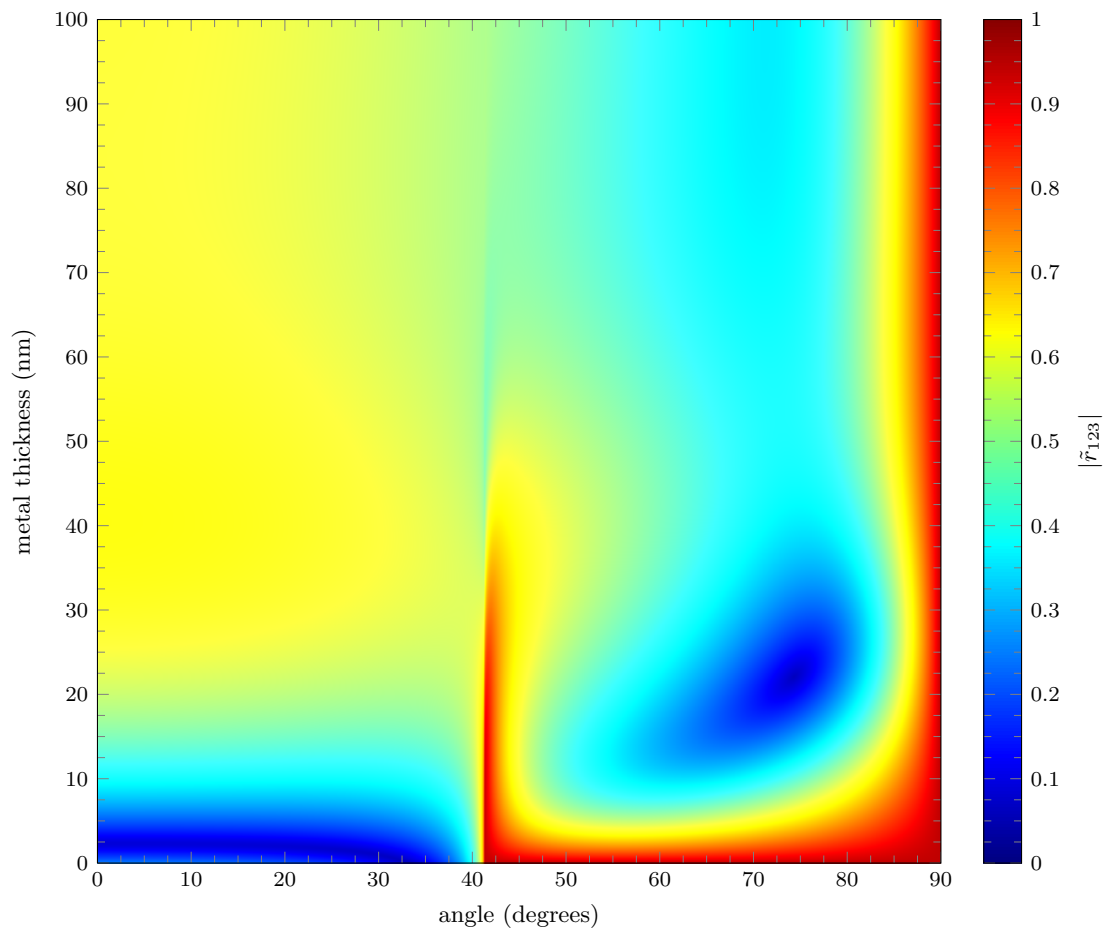


Figure 11: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (W-BK7-Vacuum) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.2 Metal-LAH79-Air

0.2.1 Ag-LAH79-Vacuum

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{LAH79}, \epsilon_2 = \text{Ag}, \epsilon_3 = \text{Vacuum}$$

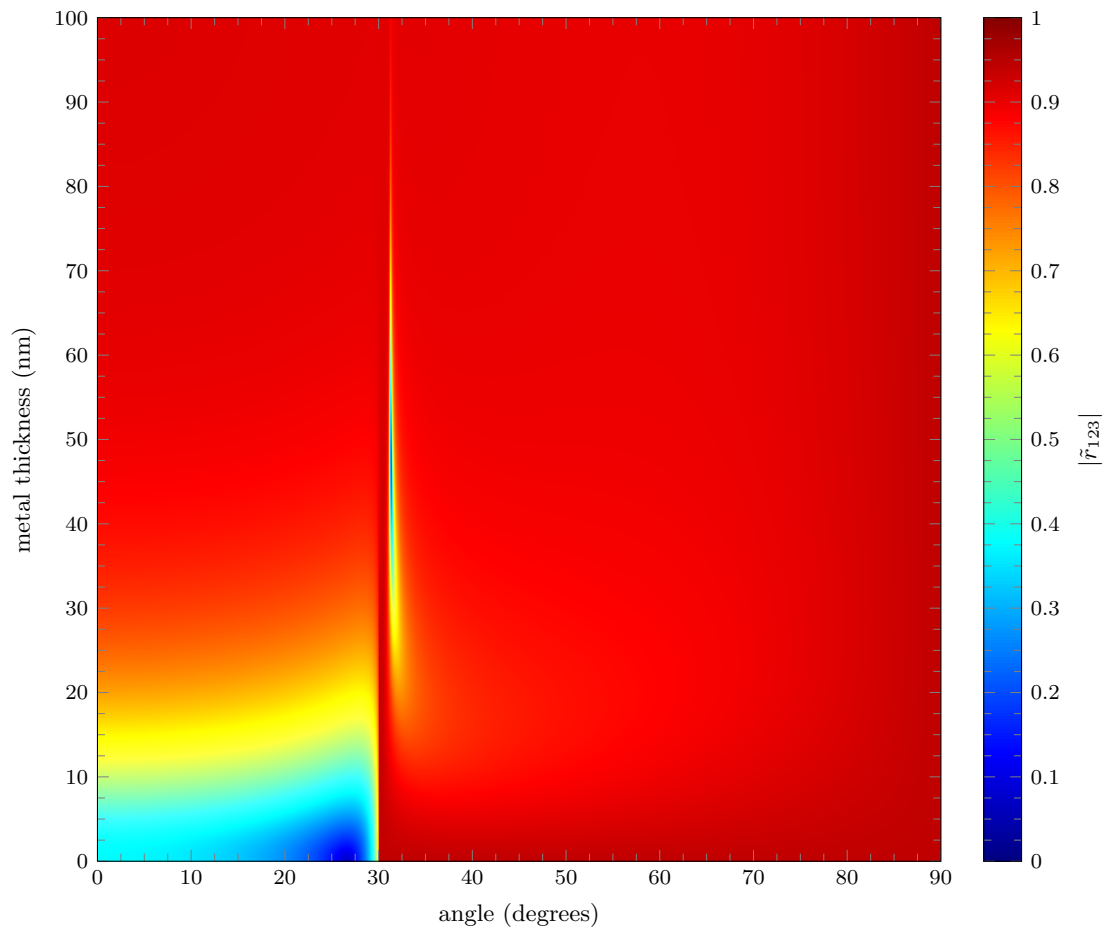


Figure 12: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Ag-LAH79-Vacuum) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.2.2 Al-LAH79-Vacuum

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{LAH79}, \epsilon_2 = \text{Al}, \epsilon_3 = \text{Vacuum}$$

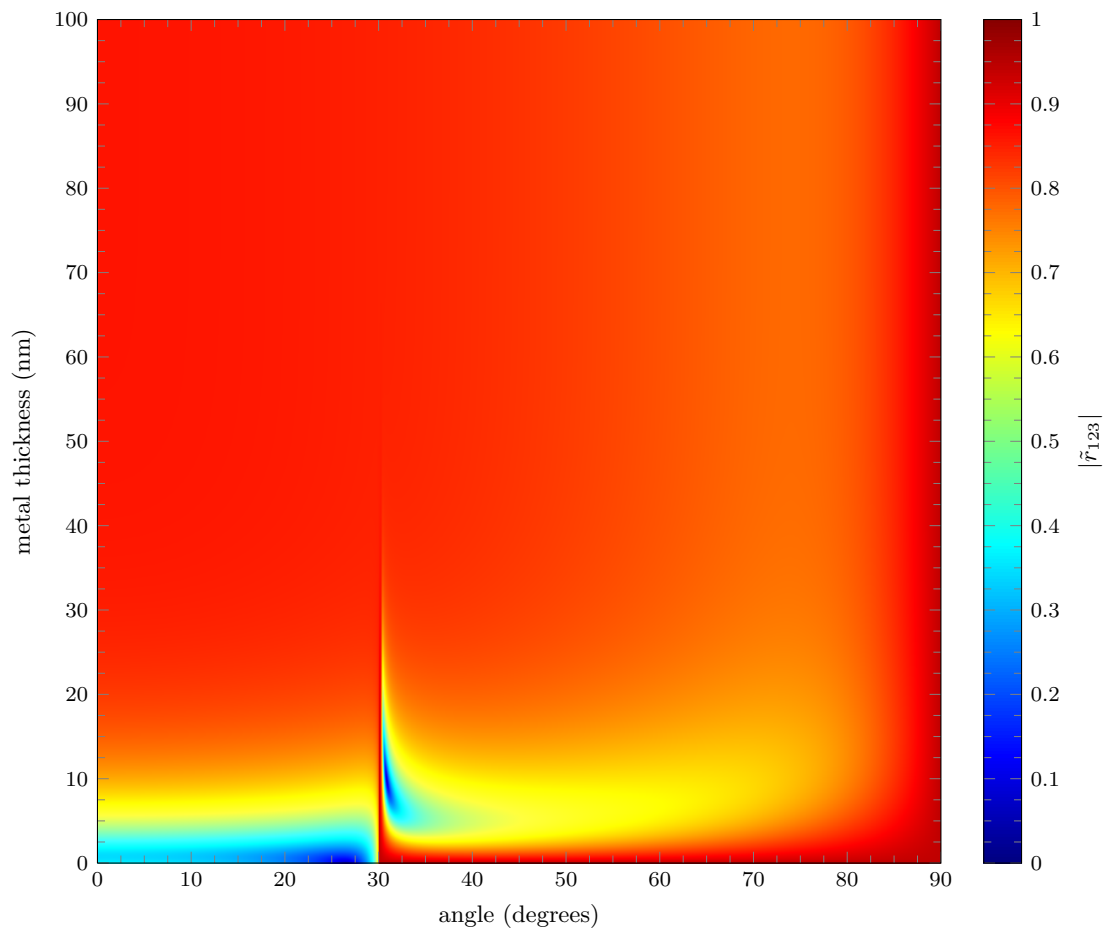


Figure 13: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Al-LAH79-Vacuum) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.2.3 Au-LAH79-Vacuum

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{LAH79}, \epsilon_2 = \text{Au}, \epsilon_3 = \text{Vacuum}$$

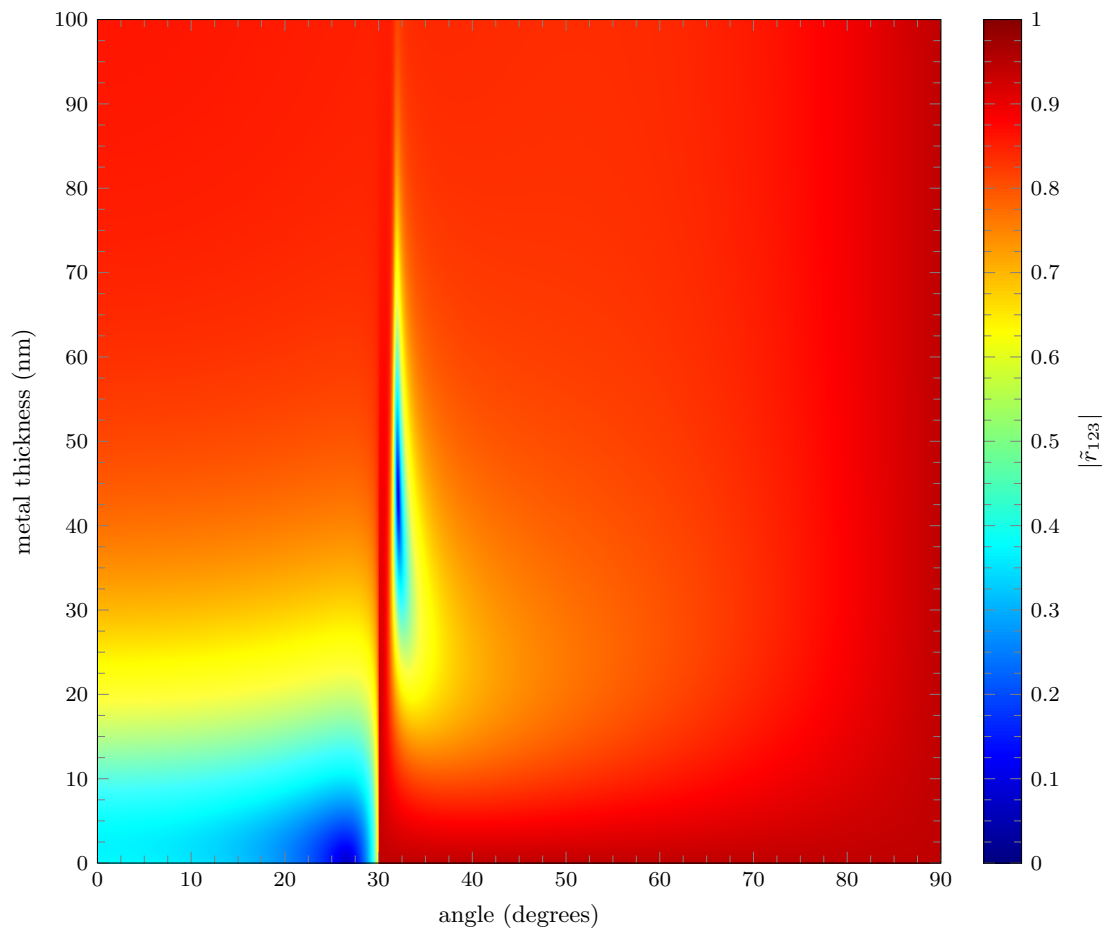


Figure 14: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Au-LAH79-Vacuum) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.2.4 Be-LAH79-Vacuum

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{LAH79}, \epsilon_2 = \text{Be}, \epsilon_3 = \text{Vacuum}$$

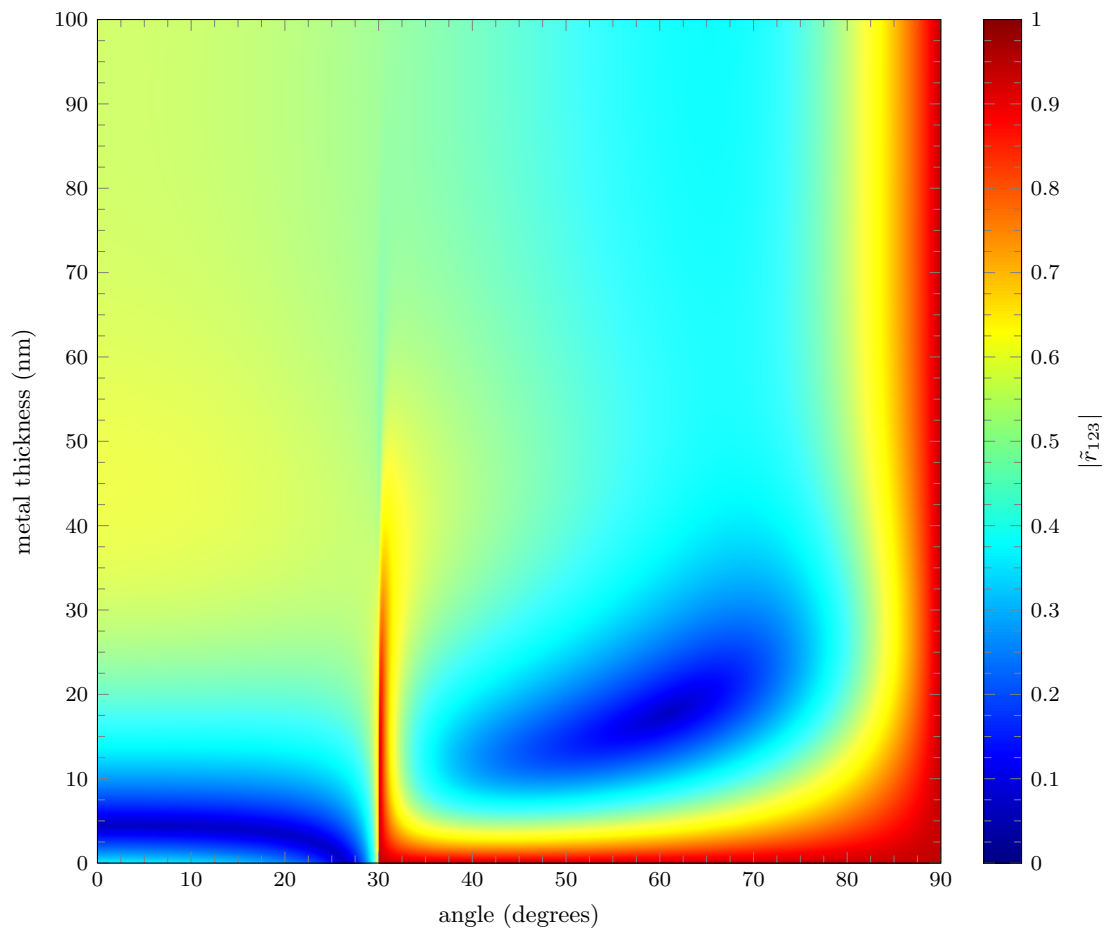


Figure 15: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Be-LAH79-Vacuum) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.2.5 Cr-LAH79-Vacuum

$\lambda_0 = 632.8 \text{ nm}$, $\epsilon_1 = \text{LAH79}$, $\epsilon_2 = \text{Cr}$, $\epsilon_3 = \text{Vacuum}$

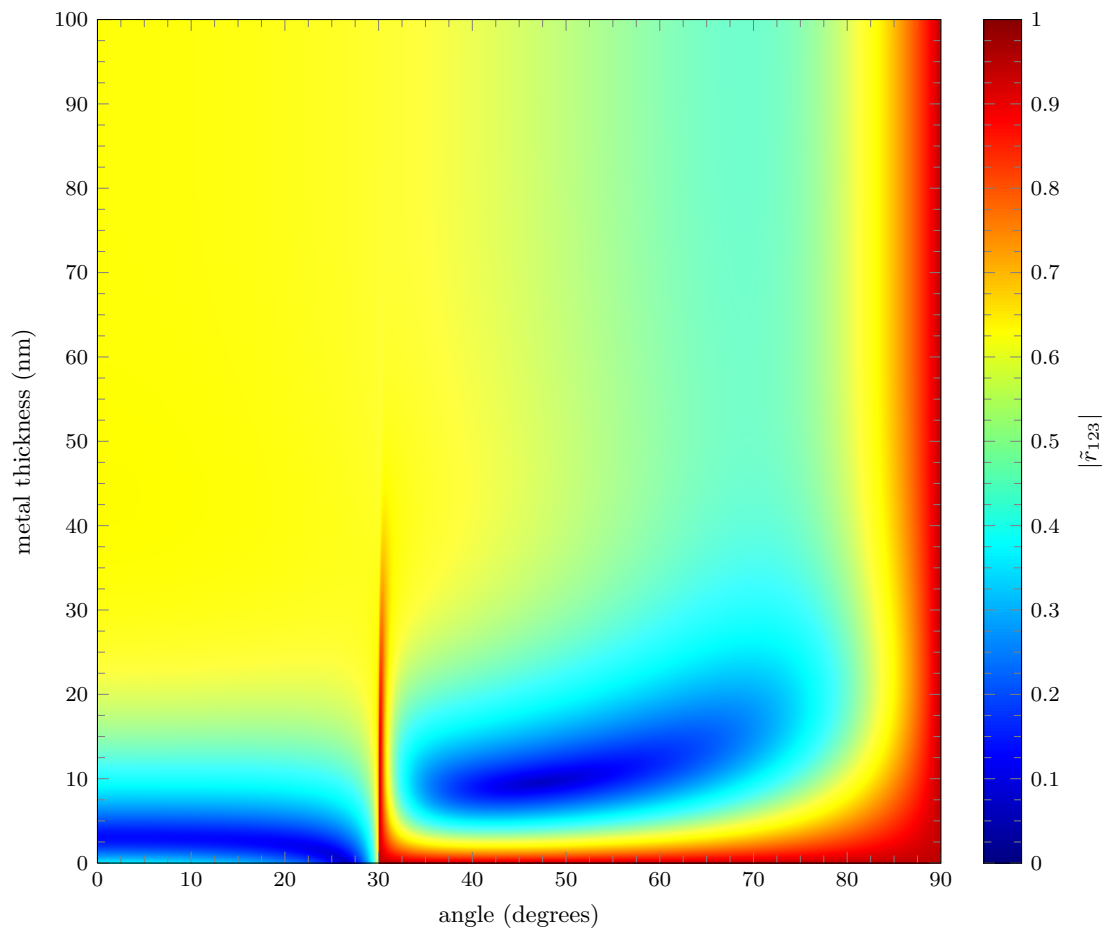


Figure 16: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Cr-LAH79-Vacuum) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.2.6 Cu-LAH79-Vacuum

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{LAH79}, \epsilon_2 = \text{Cu}, \epsilon_3 = \text{Vacuum}$$

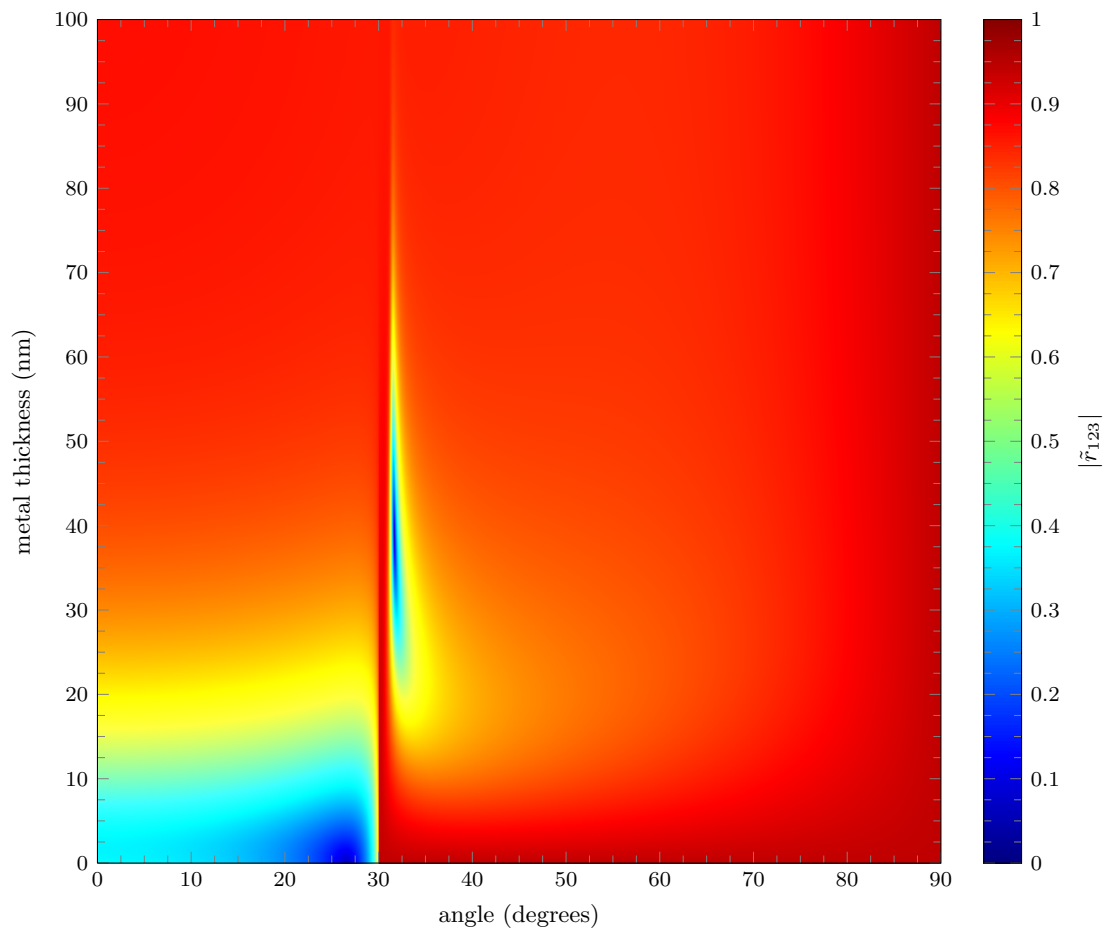


Figure 17: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Cu-LAH79-Vacuum) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.2.7 Ni-LAH79-Vacuum

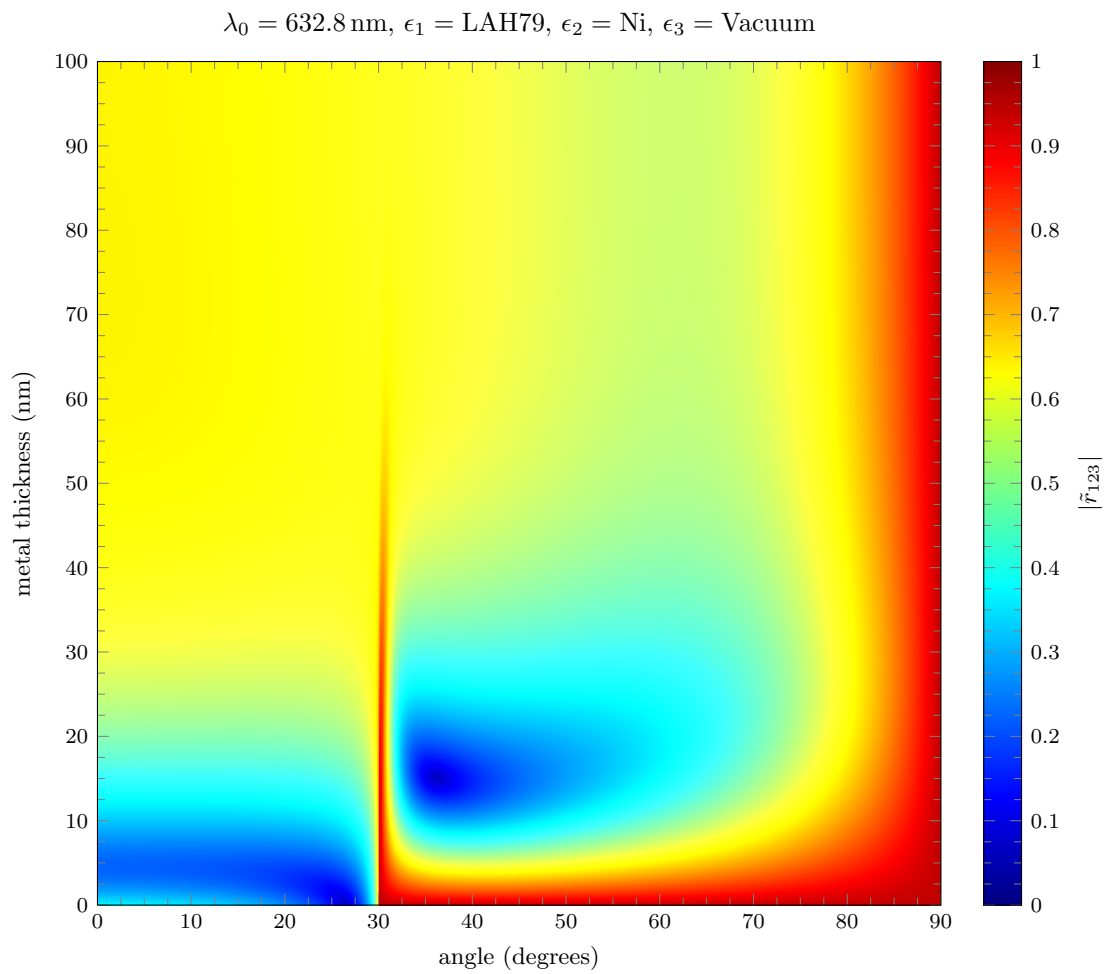


Figure 18: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Ni-LAH79-Vacuum) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.2.8 Pd-LAH79-Vacuum

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{LAH79}, \epsilon_2 = \text{Pd}, \epsilon_3 = \text{Vacuum}$$

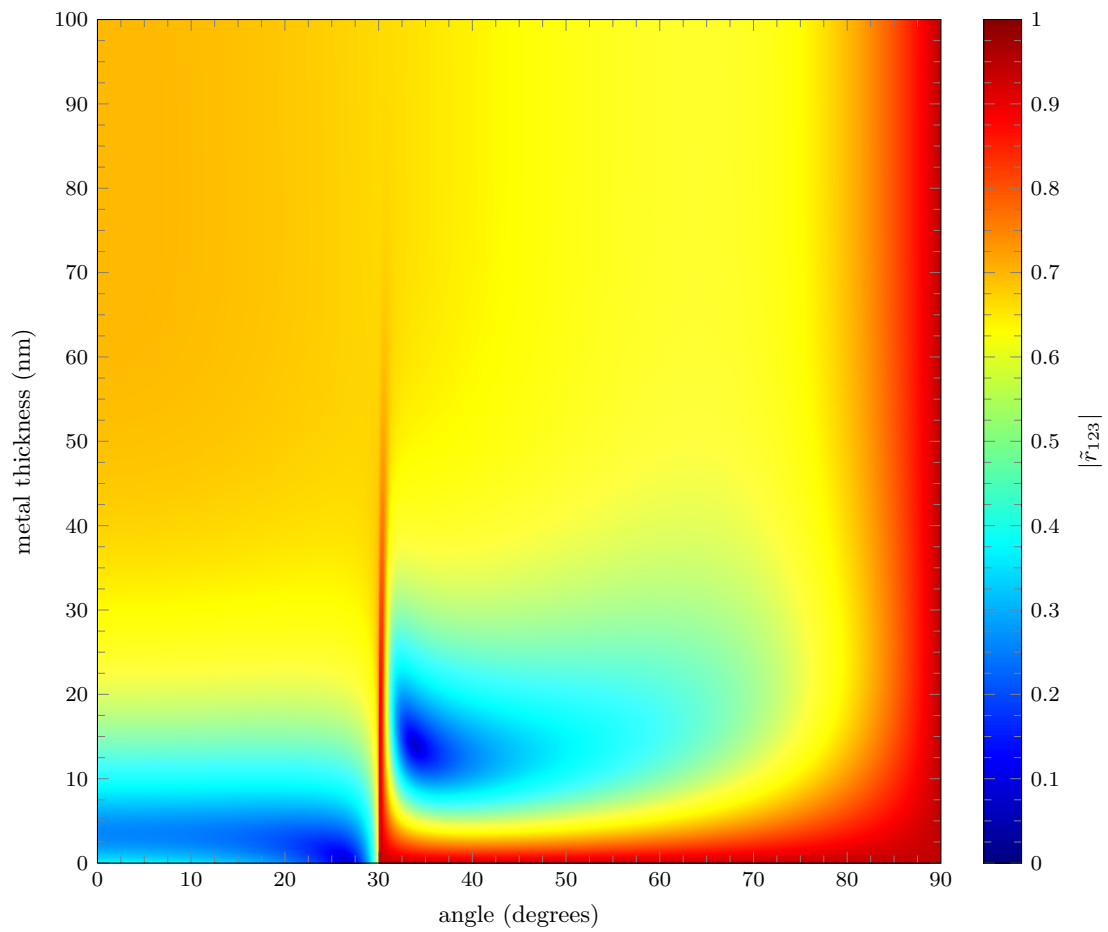


Figure 19: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Pd-LAH79-Vacuum) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.2.9 Pt-LAH79-Vacuum

$\lambda_0 = 632.8 \text{ nm}$, $\epsilon_1 = \text{LAH79}$, $\epsilon_2 = \text{Pt}$, $\epsilon_3 = \text{Vacuum}$

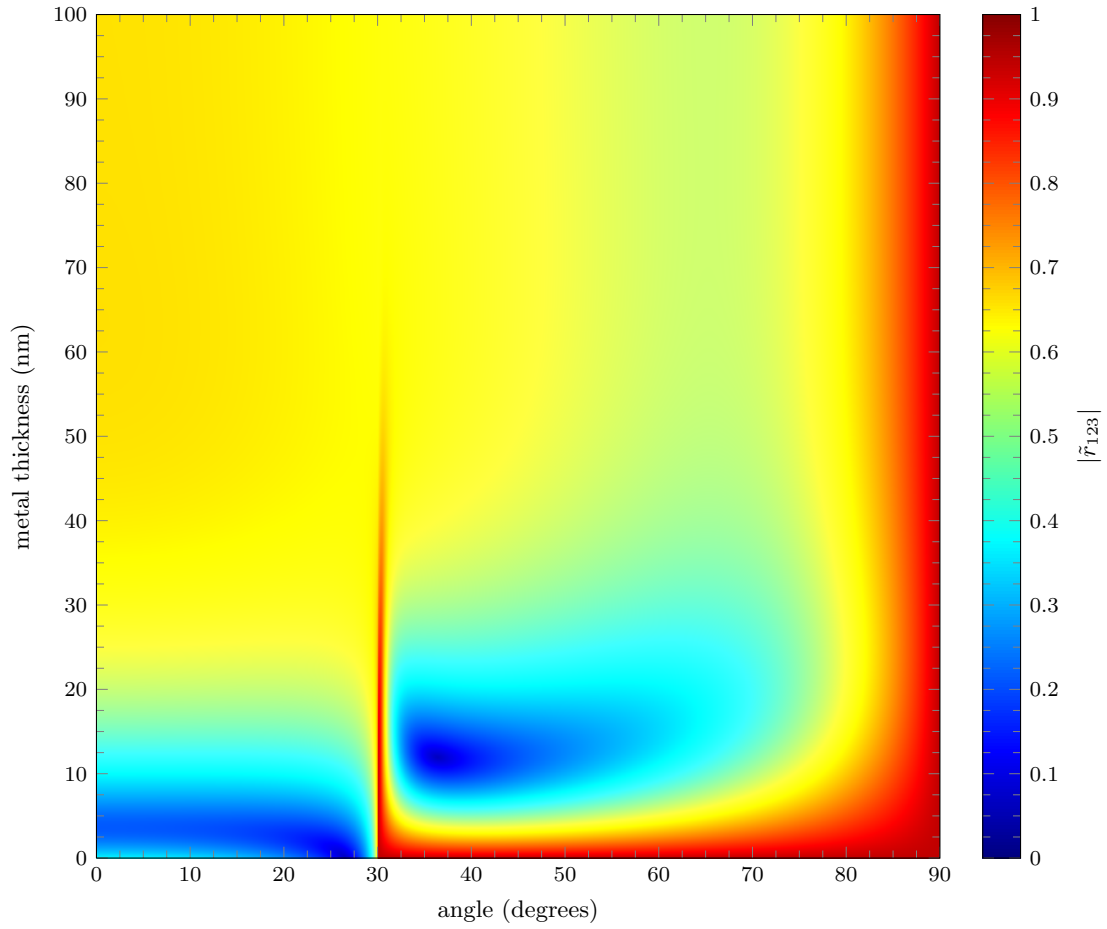


Figure 20: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Pt-LAH79-Vacuum) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.2.10 Ti-LAH79-Vacuum

$\lambda_0 = 632.8 \text{ nm}$, $\epsilon_1 = \text{LAH79}$, $\epsilon_2 = \text{Ti}$, $\epsilon_3 = \text{Vacuum}$

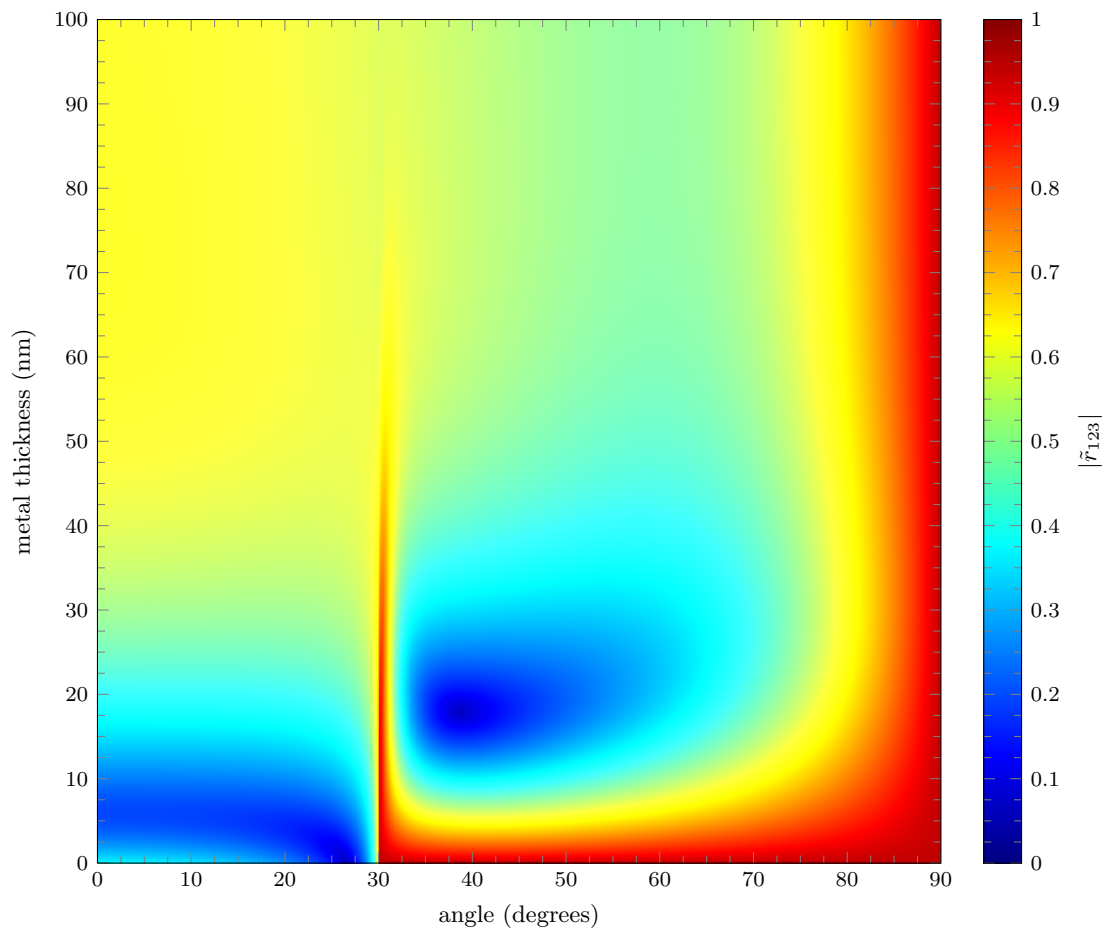


Figure 21: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Ti-LAH79-Vacuum) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.2.11 W-LAH79-Vacuum

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{LAH79}, \epsilon_2 = \text{W}, \epsilon_3 = \text{Vacuum}$$

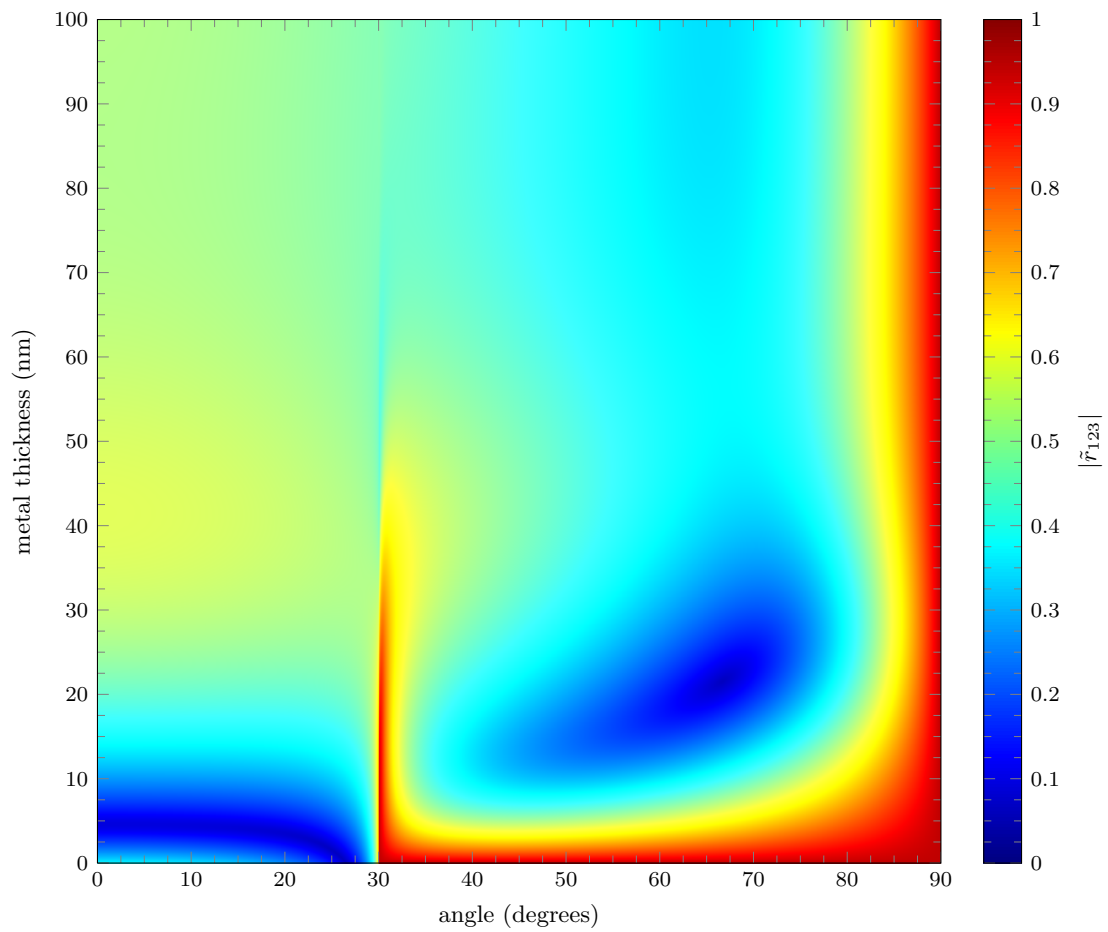


Figure 22: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (W-LAH79-Vacuum) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.3 Metal-BK7-H₂O

0.3.1 Ag-BK7-H₂O

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{BK7}, \epsilon_2 = \text{Ag}, \epsilon_3 = \text{H}_2\text{O}$$

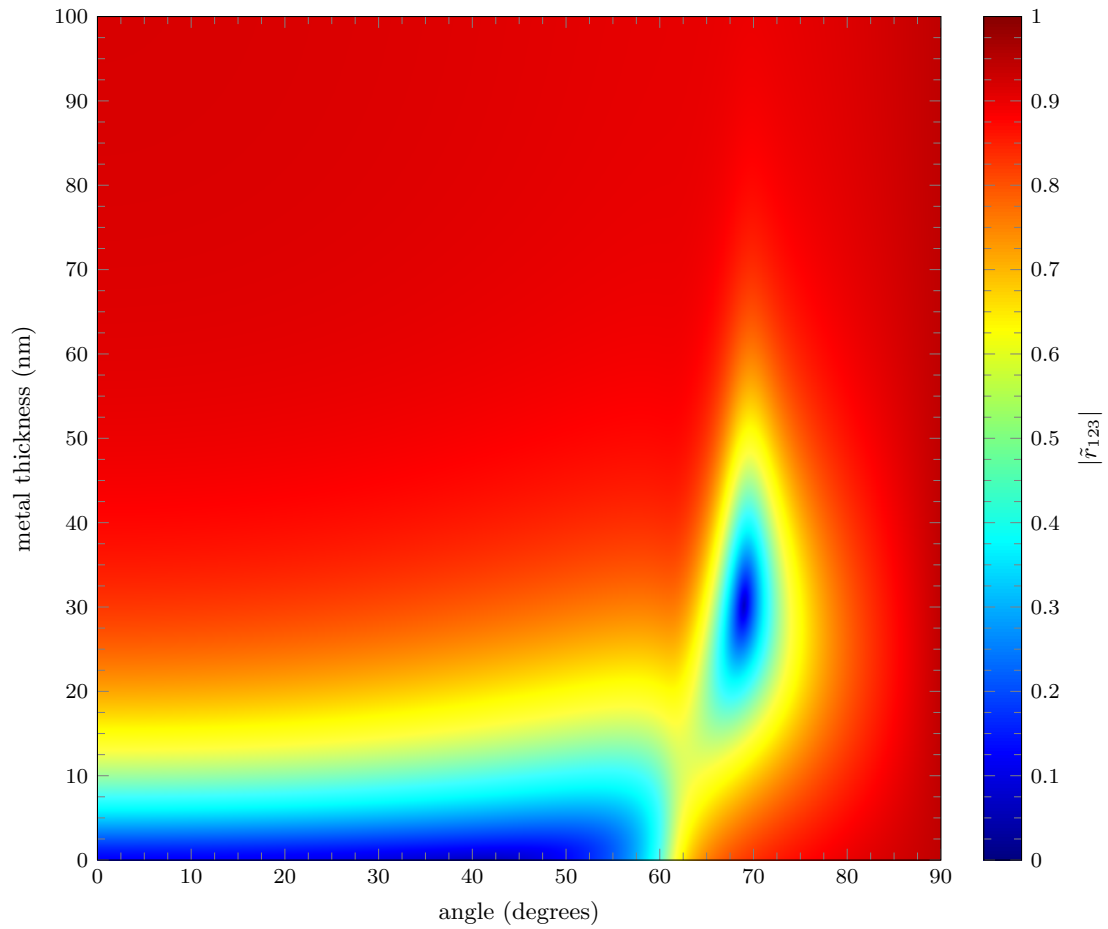


Figure 23: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Ag-BK7-H₂O) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.3.2 Al-BK7-H₂O

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{BK7}, \epsilon_2 = \text{Al}, \epsilon_3 = \text{H}_2\text{O}$$

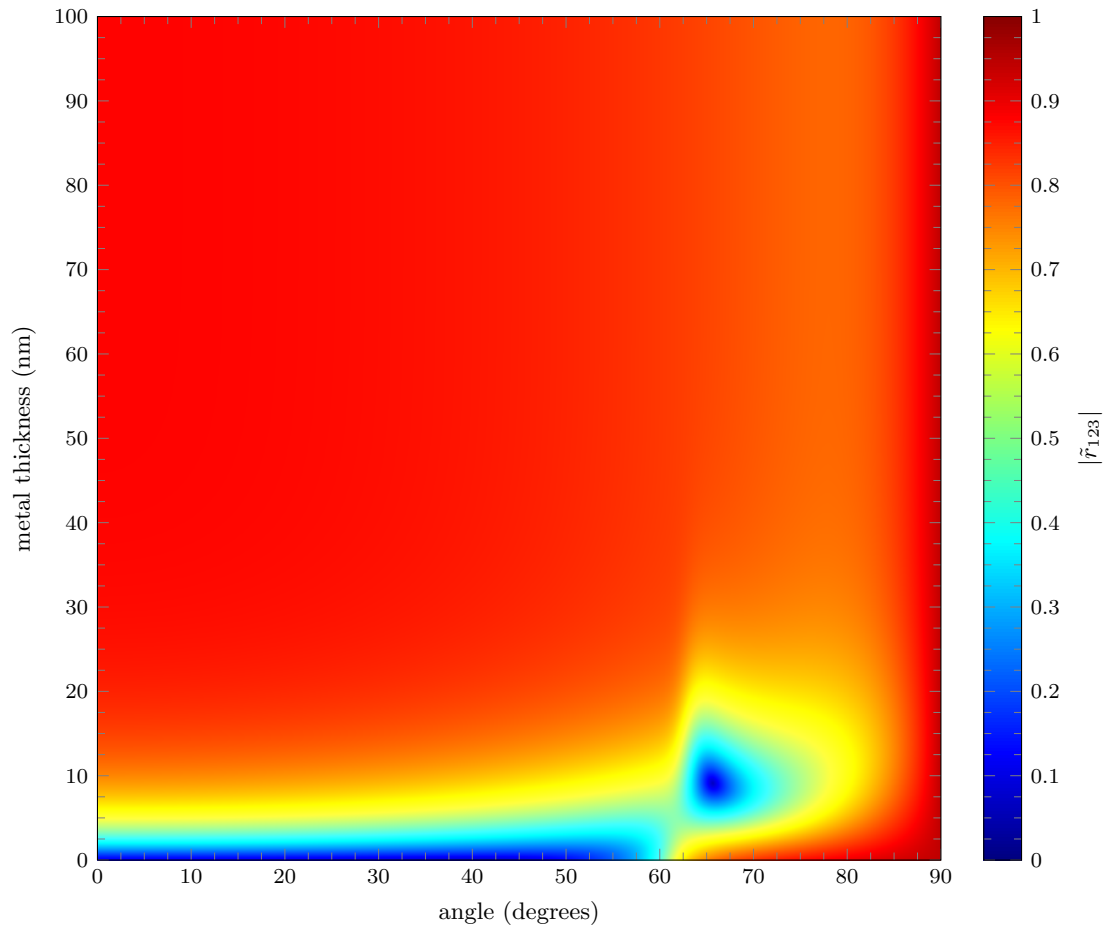


Figure 24: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Al-BK7-H₂O) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.3.3 Au-BK7-H₂O

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{BK7}, \epsilon_2 = \text{Au}, \epsilon_3 = \text{H}_2\text{O}$$

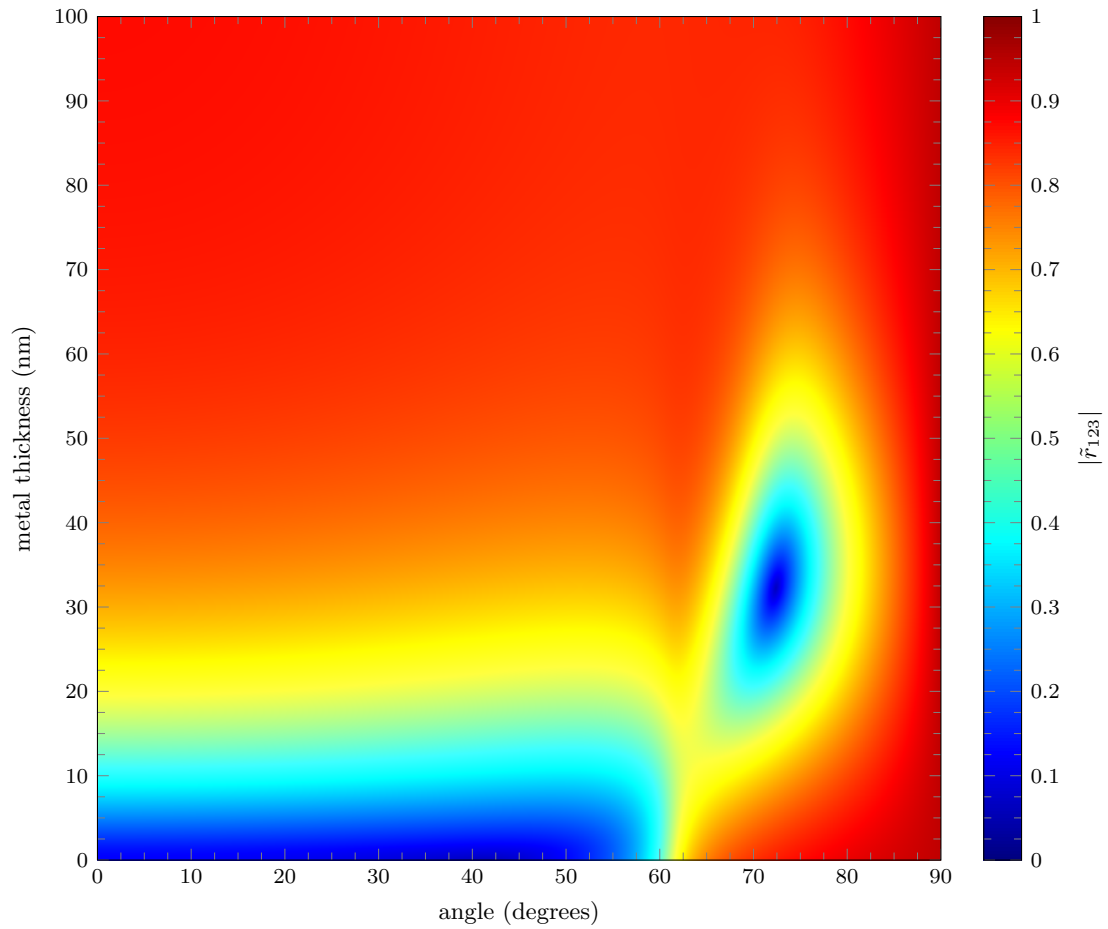


Figure 25: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Au-BK7-H₂O) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.3.4 Be-BK7-H₂O

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{BK7}, \epsilon_2 = \text{Be}, \epsilon_3 = \text{H}_2\text{O}$$

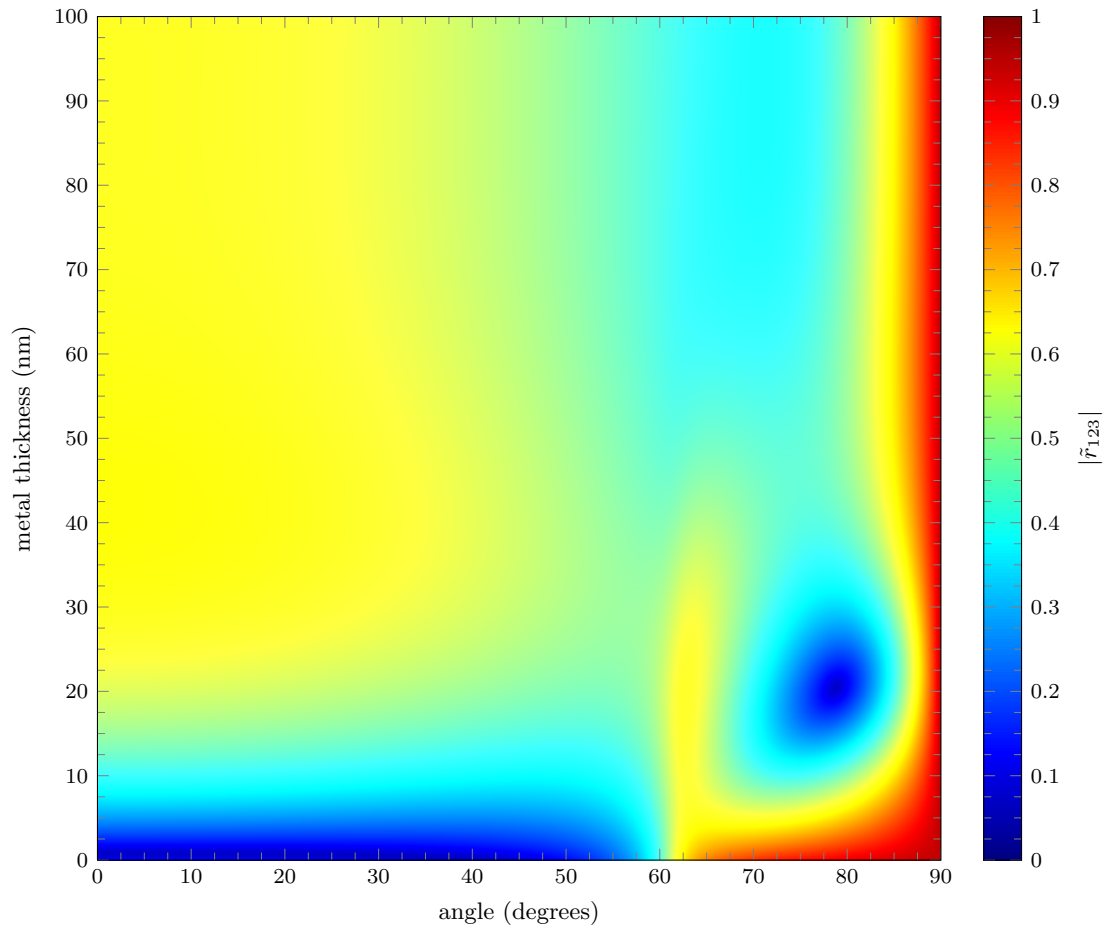


Figure 26: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Be-BK7-H₂O) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.3.5 Cr-BK7-H₂O

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{BK7}, \epsilon_2 = \text{Cr}, \epsilon_3 = \text{H}_2\text{O}$$

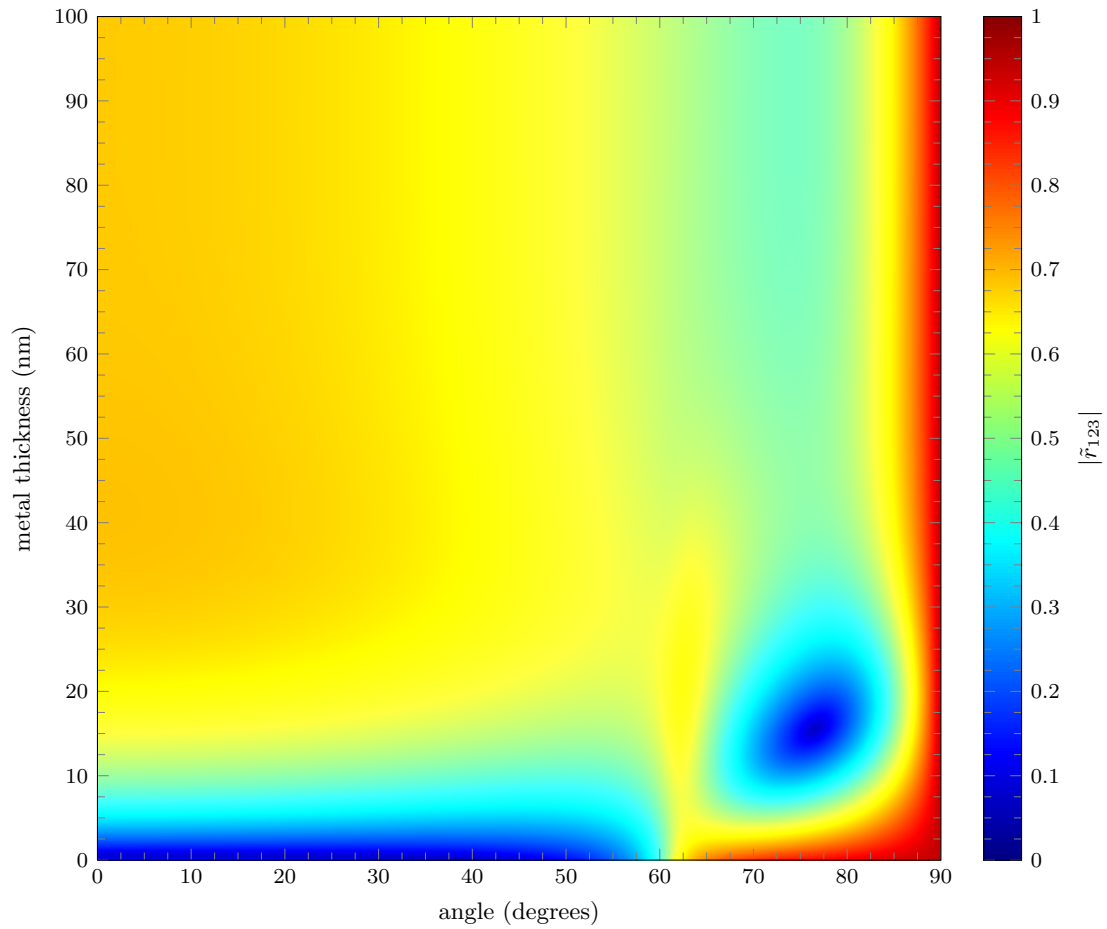


Figure 27: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Cr-BK7-H₂O) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.3.6 Cu-BK7-H₂O

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{BK7}, \epsilon_2 = \text{Cu}, \epsilon_3 = \text{H}_2\text{O}$$

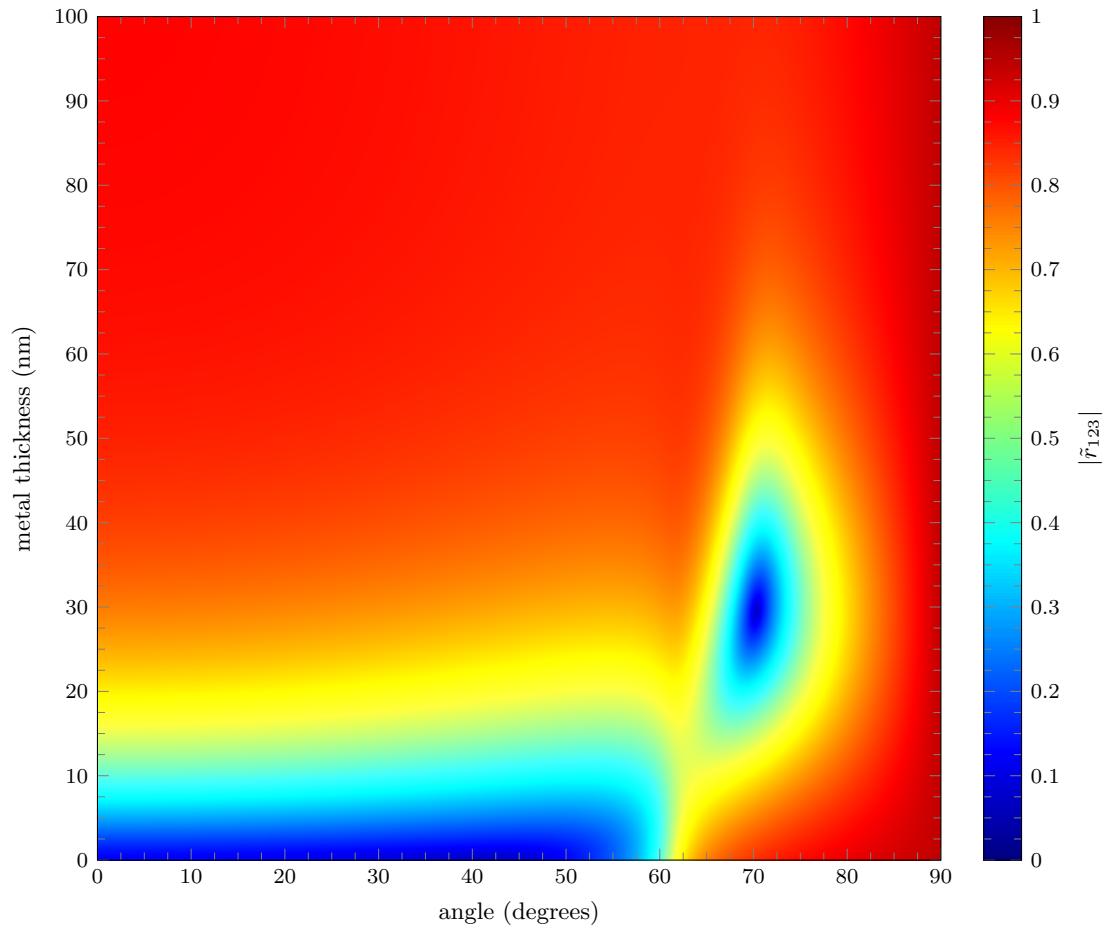


Figure 28: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Cu-BK7-H₂O) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.3.7 Ni-BK7-H₂O

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{BK7}, \epsilon_2 = \text{Ni}, \epsilon_3 = \text{H}_2\text{O}$$

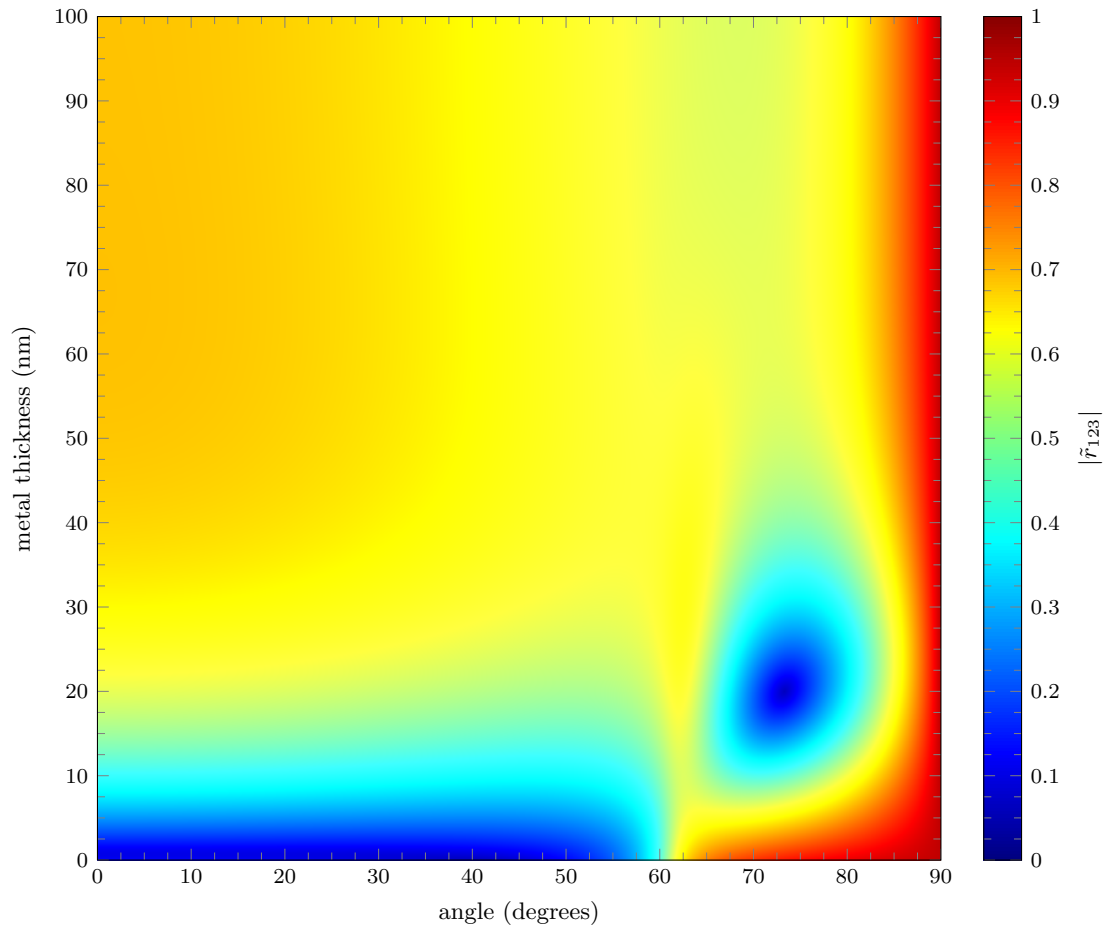


Figure 29: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Ni-BK7-H₂O) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.3.8 Pd-BK7-H₂O

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{BK7}, \epsilon_2 = \text{Pd}, \epsilon_3 = \text{H}_2\text{O}$$

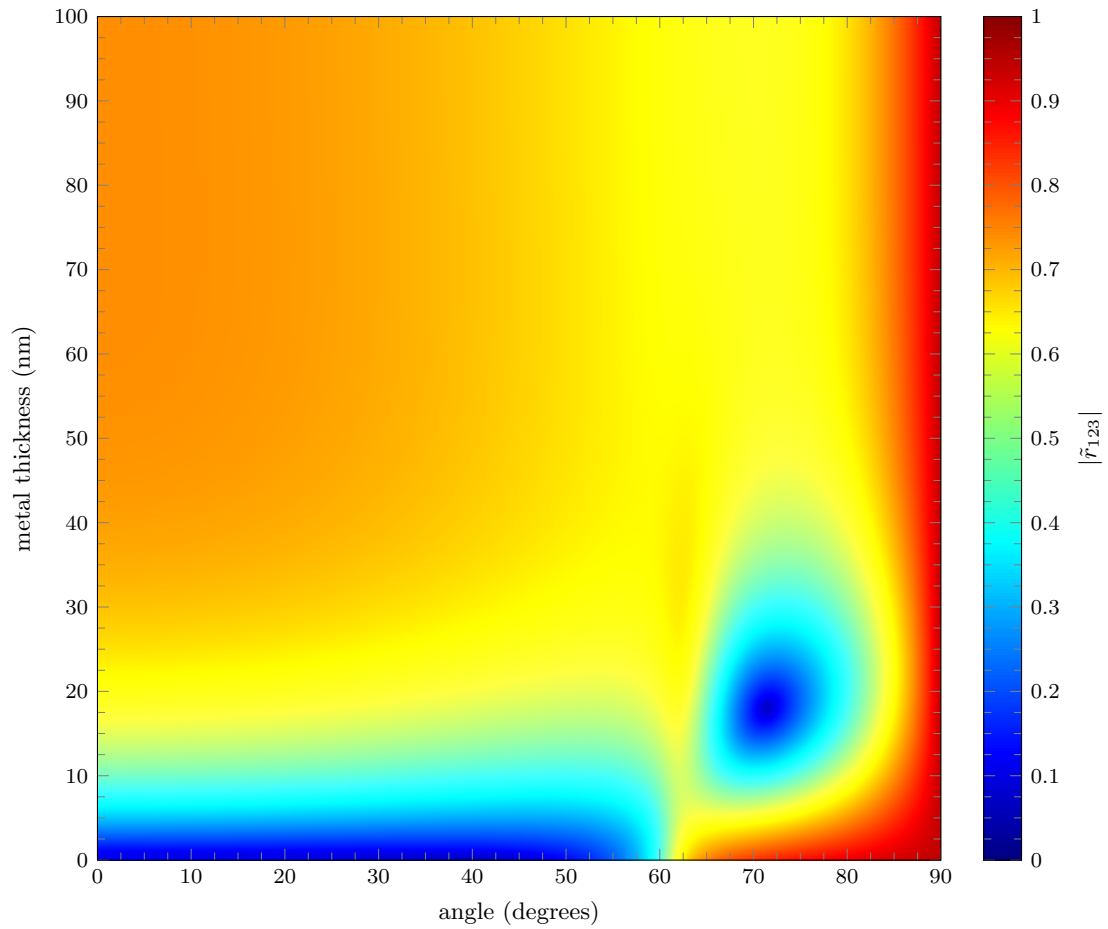


Figure 30: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Pd-BK7-H₂O) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.3.9 Pt-BK7-H₂O

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{BK7}, \epsilon_2 = \text{Pt}, \epsilon_3 = \text{H}_2\text{O}$$

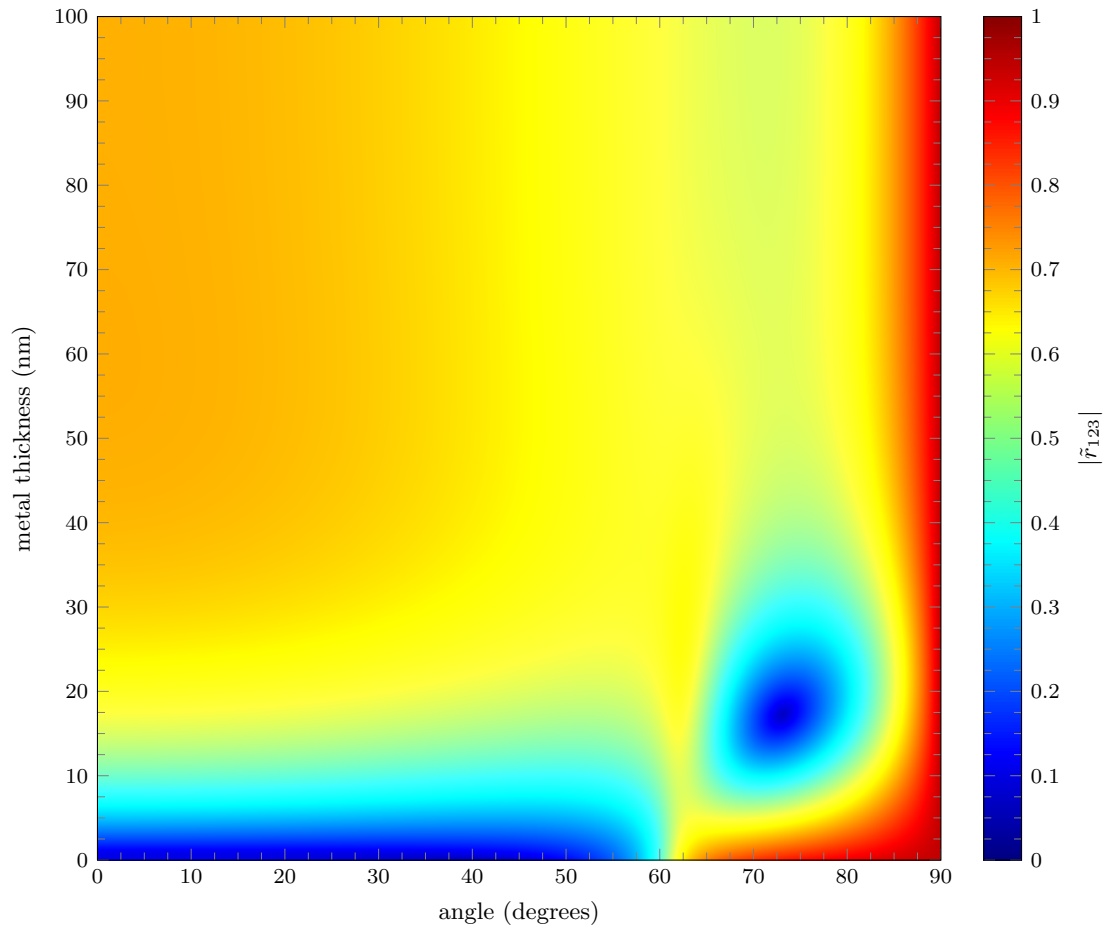


Figure 31: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Pt-BK7-H₂O) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.3.10 Ti-BK7-H₂O

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{BK7}, \epsilon_2 = \text{Ti}, \epsilon_3 = \text{H}_2\text{O}$$

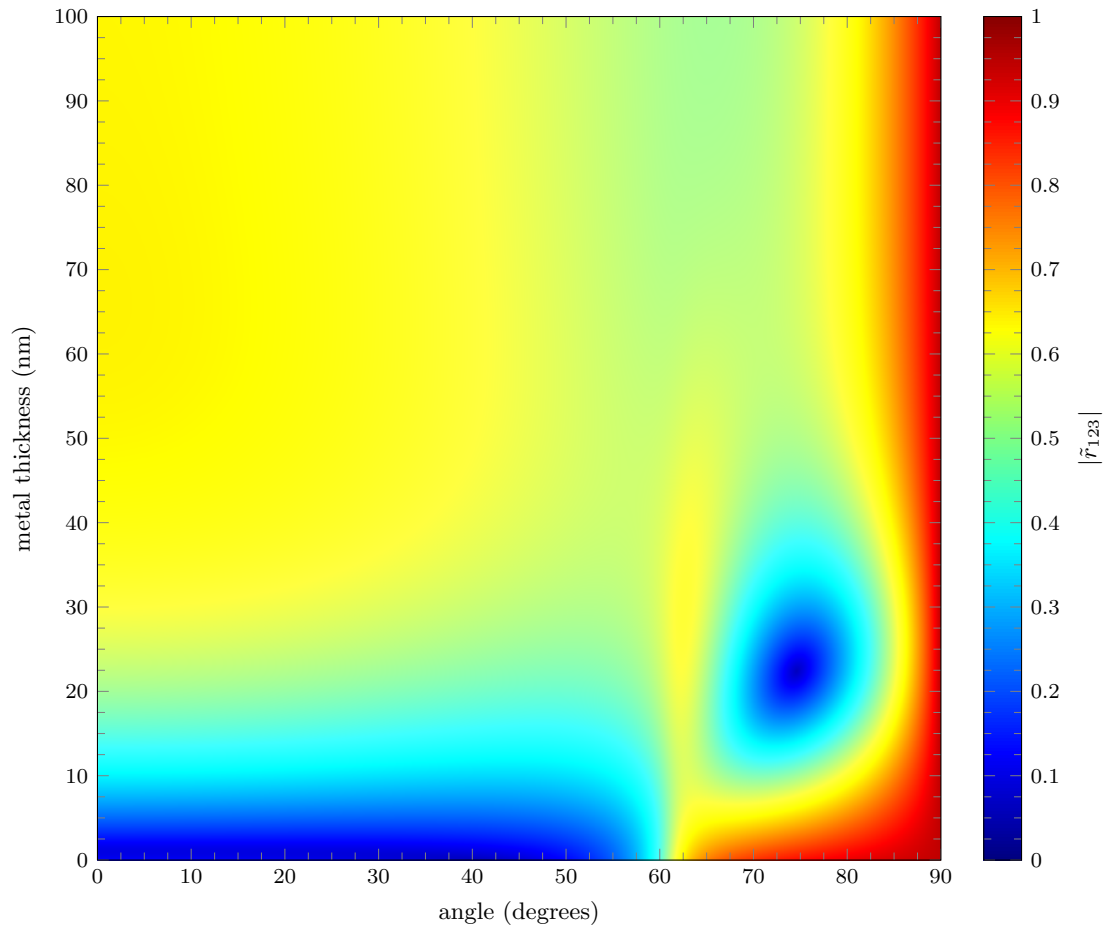


Figure 32: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Ti-BK7-H₂O) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.3.11 W-BK7-H₂O

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{BK7}, \epsilon_2 = \text{W}, \epsilon_3 = \text{H}_2\text{O}$$

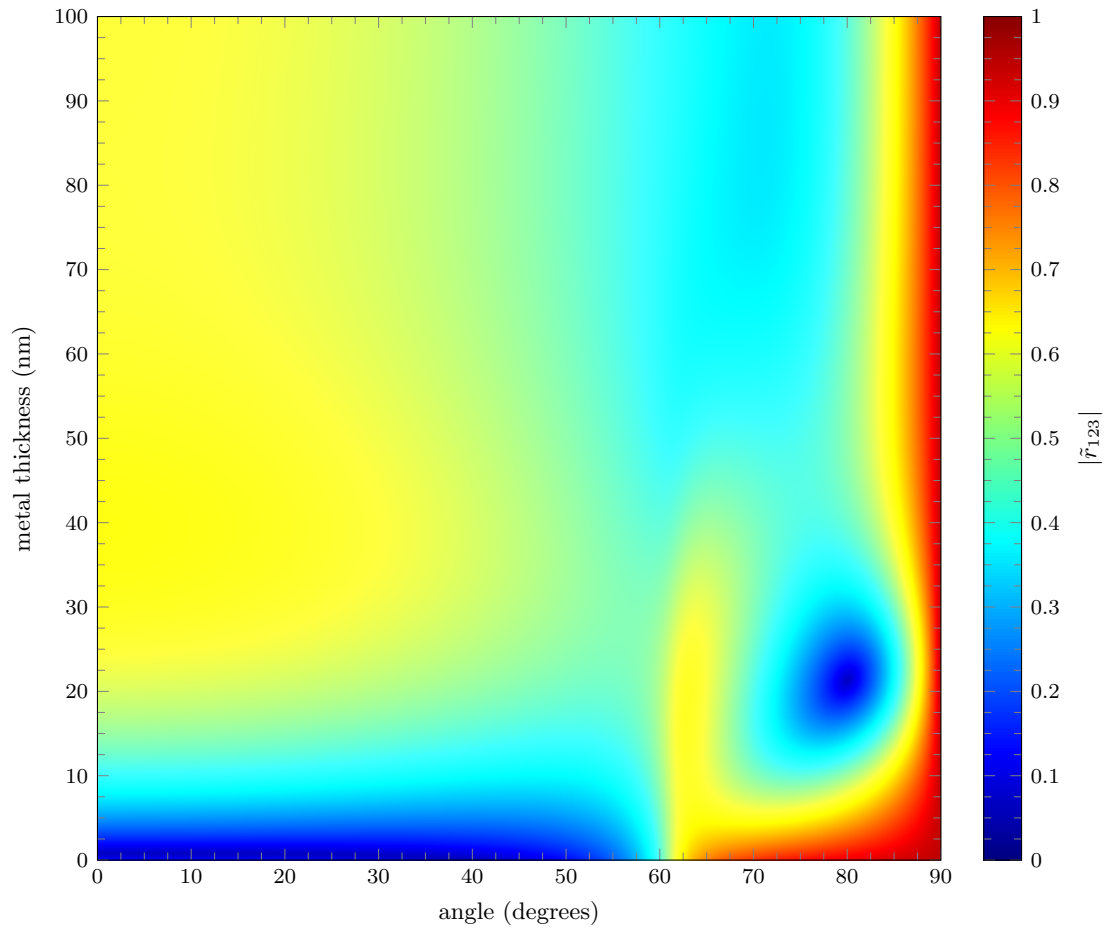


Figure 33: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (W-BK7-H₂O) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.4 Metal-LAH79-H₂O

0.4.1 Ag-LAH79-H₂O

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{LAH79}, \epsilon_2 = \text{Ag}, \epsilon_3 = \text{H}_2\text{O}$$

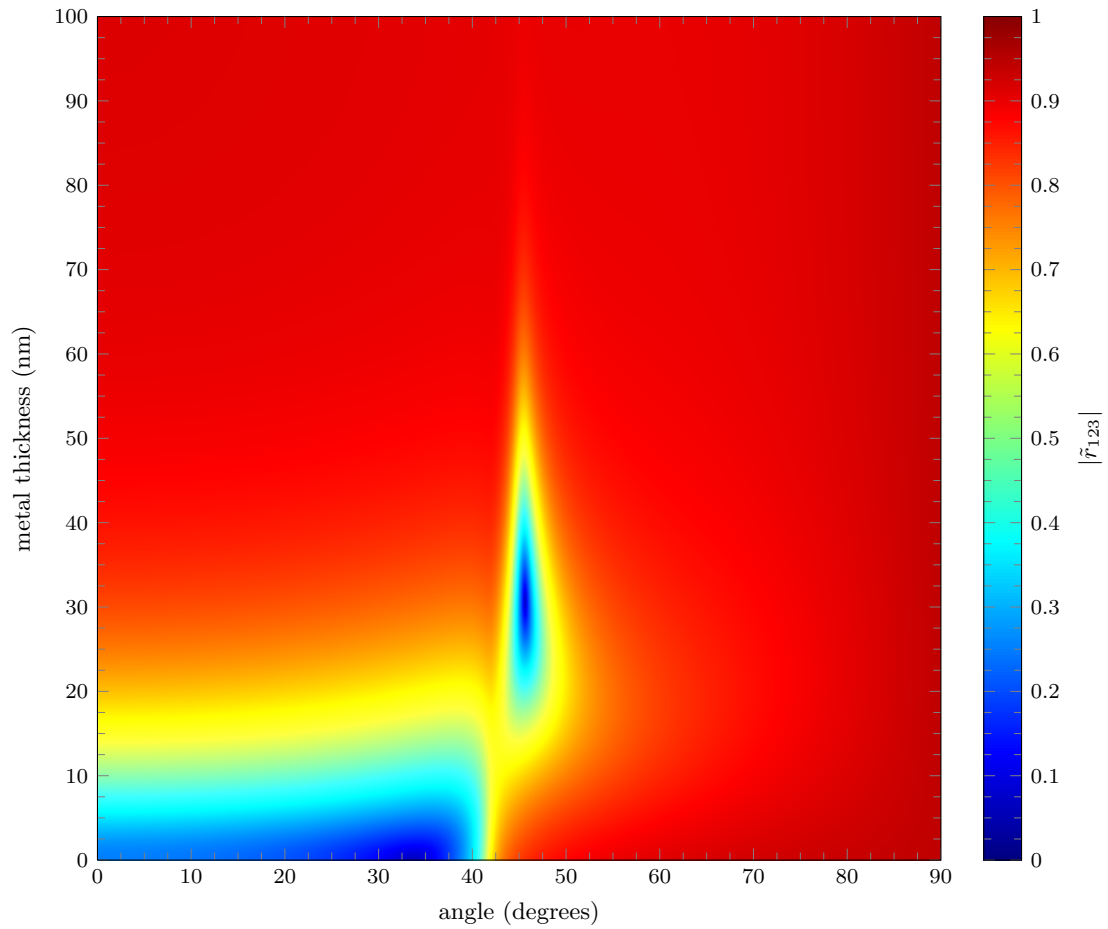


Figure 34: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Ag-LAH79-H₂O) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.4.2 Al-LAH79-H₂O

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{LAH79}, \epsilon_2 = \text{Al}, \epsilon_3 = \text{H}_2\text{O}$$

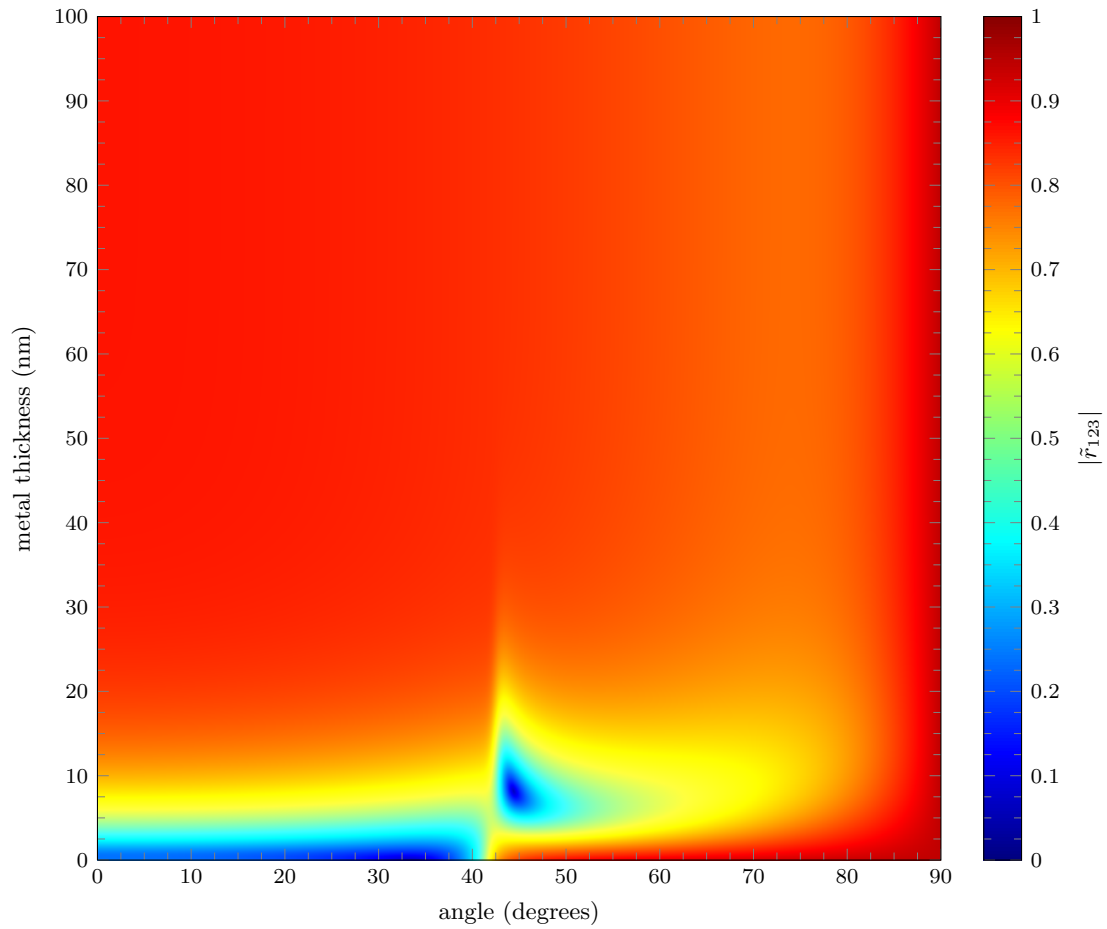


Figure 35: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Al-LAH79-H₂O) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.4.3 Au-LAH79-H₂O

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{LAH79}, \epsilon_2 = \text{Au}, \epsilon_3 = \text{H}_2\text{O}$$

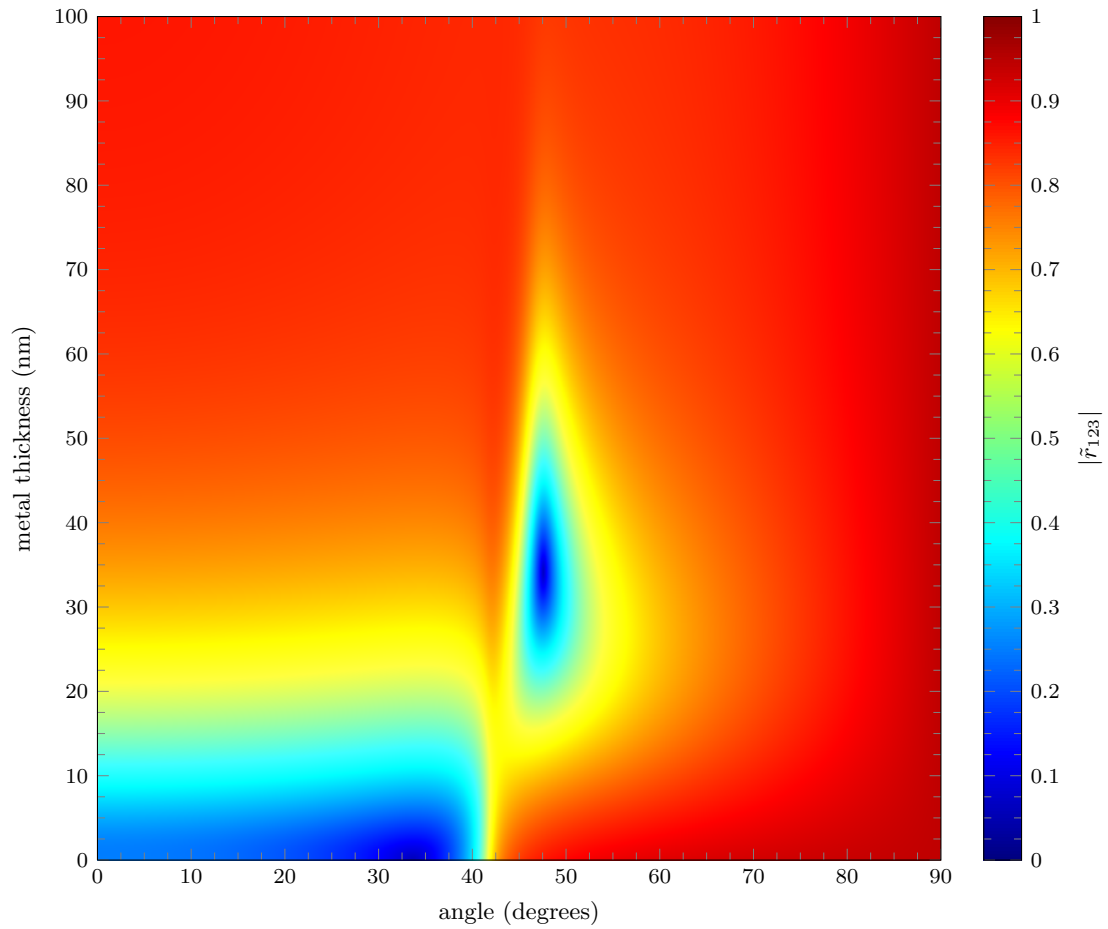


Figure 36: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Au-LAH79-H₂O) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.4.4 Be-LAH79-H₂O

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{LAH79}, \epsilon_2 = \text{Be}, \epsilon_3 = \text{H}_2\text{O}$$

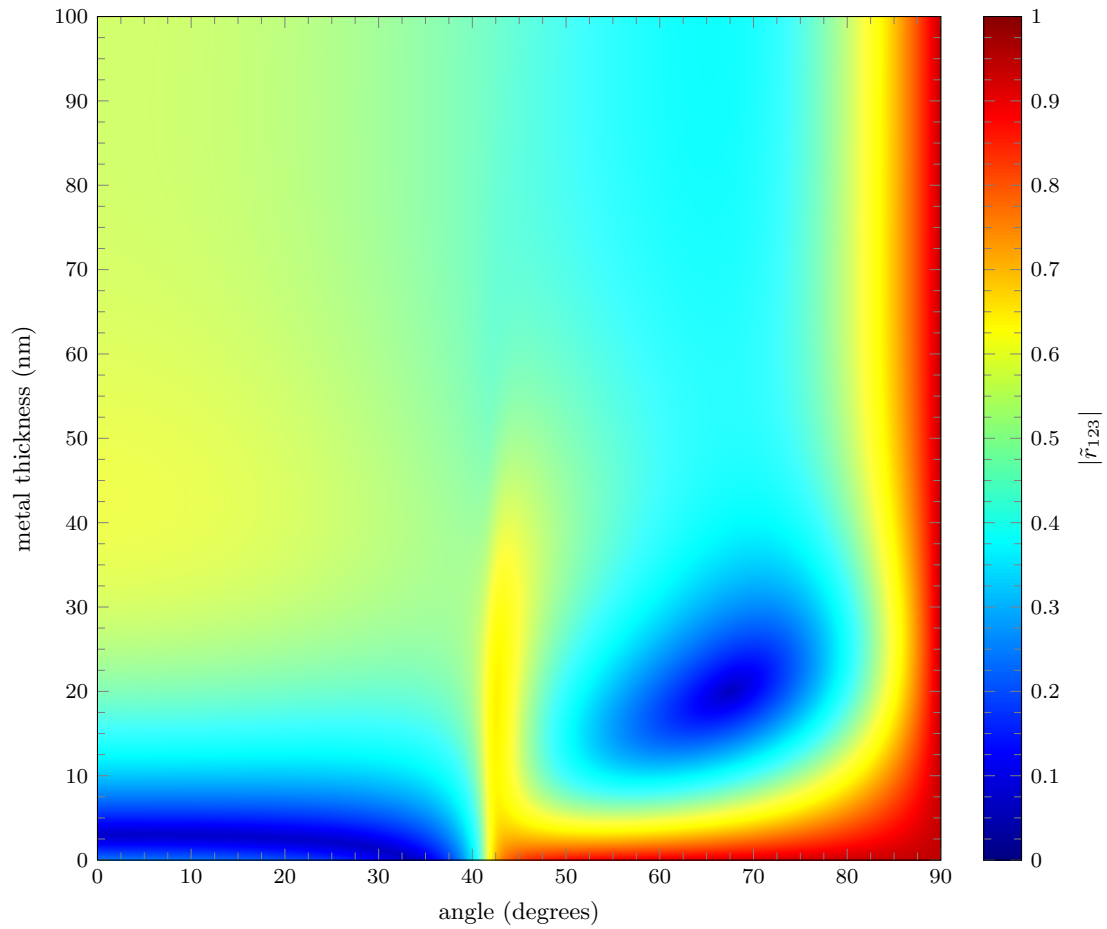


Figure 37: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Be-LAH79-H₂O) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.4.5 Cr-LAH79-H₂O

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{LAH79}, \epsilon_2 = \text{Cr}, \epsilon_3 = \text{H}_2\text{O}$$

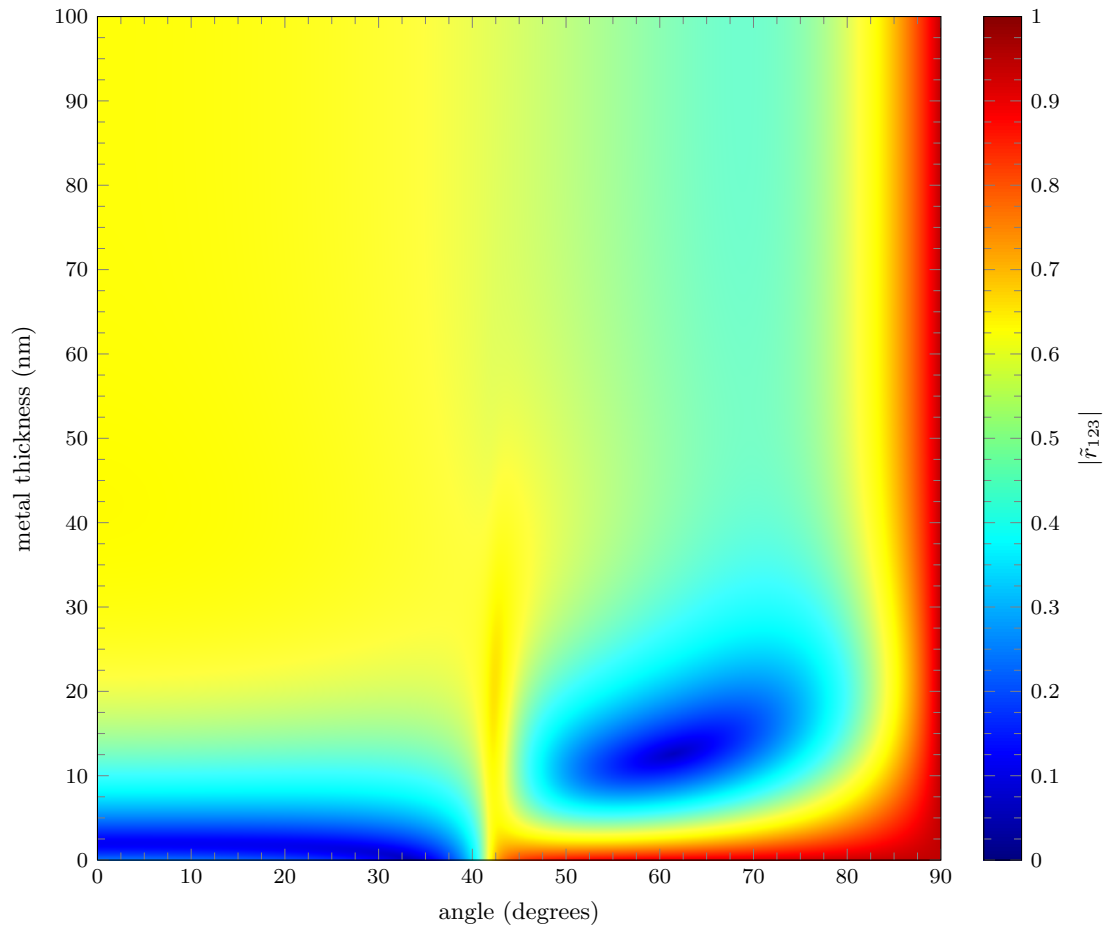


Figure 38: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Cr-LAH79-H₂O) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.4.6 Cu-LAH79-H₂O

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{LAH79}, \epsilon_2 = \text{Cu}, \epsilon_3 = \text{H}_2\text{O}$$

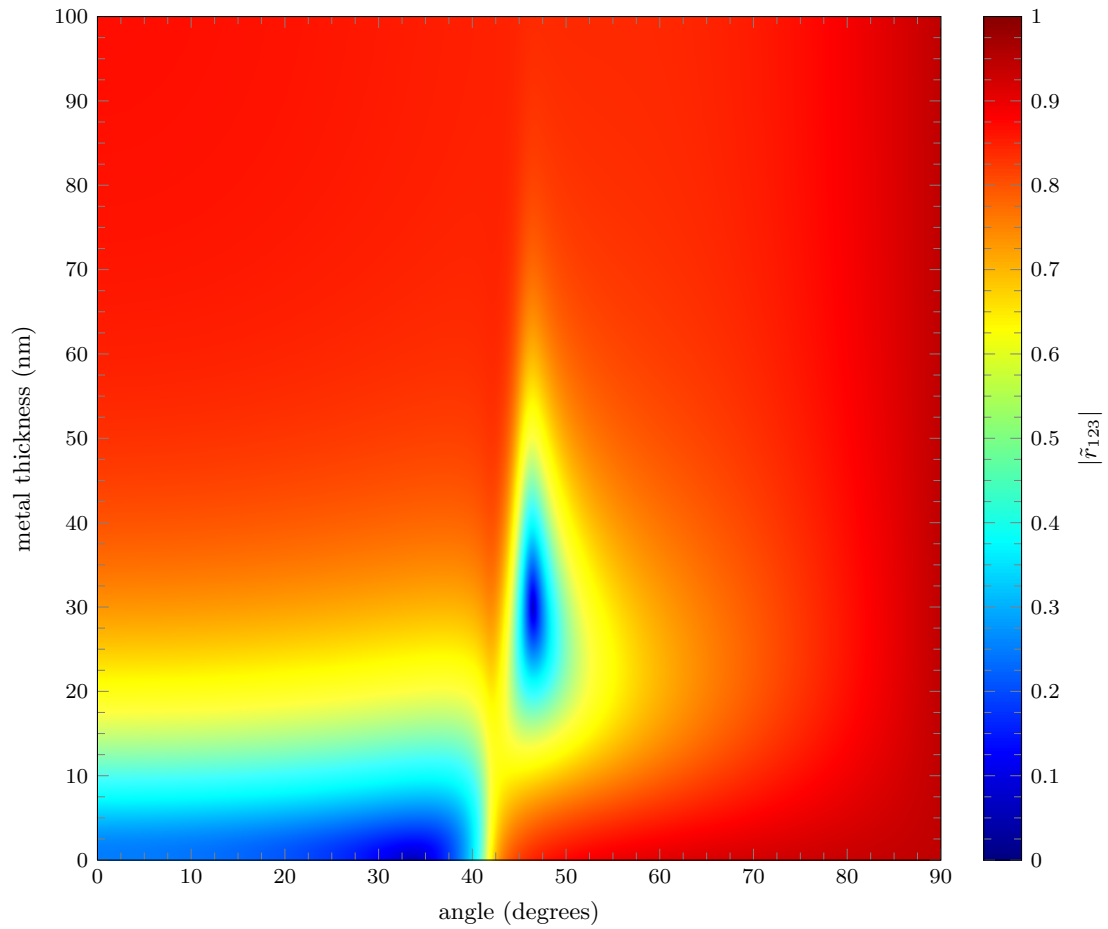


Figure 39: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Cu-LAH79-H₂O) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.4.7 Ni-LAH79-H₂O

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{LAH79}, \epsilon_2 = \text{Ni}, \epsilon_3 = \text{H}_2\text{O}$$

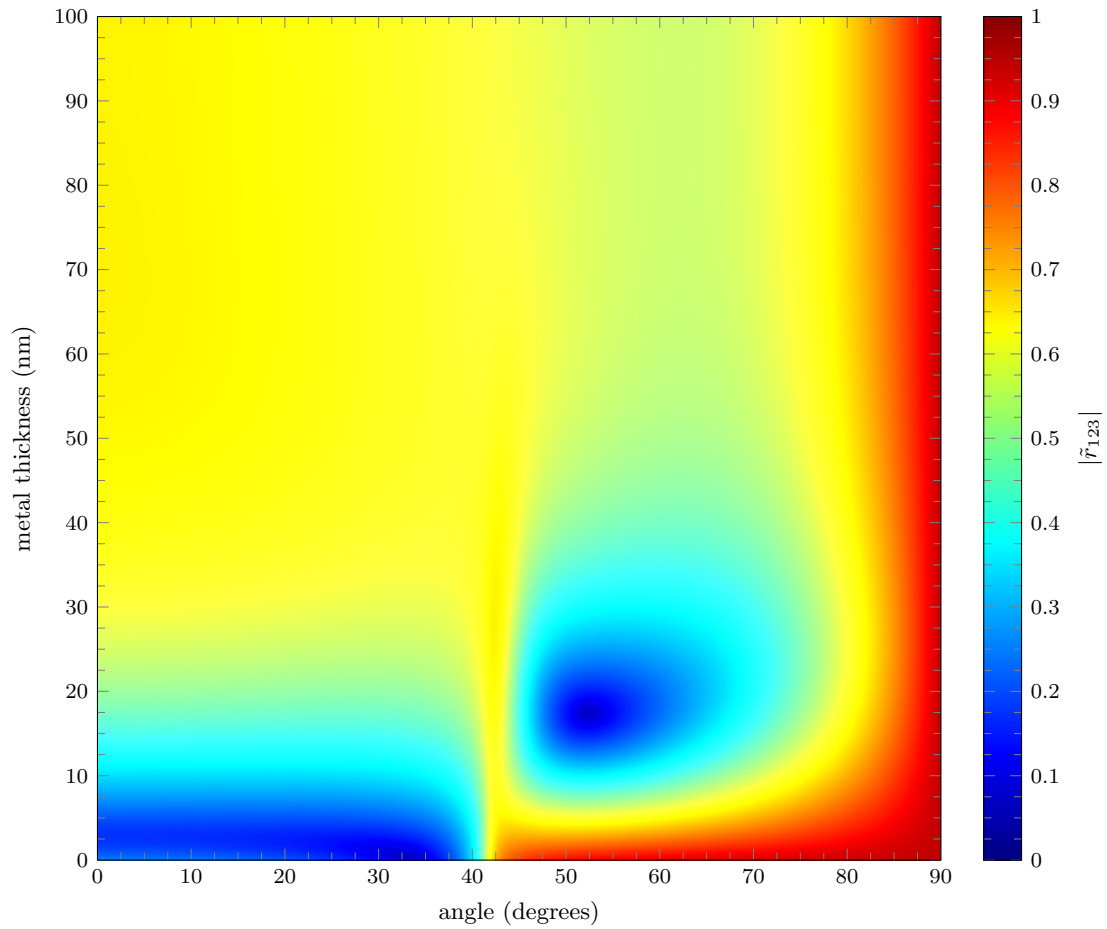


Figure 40: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Ni-LAH79-H₂O) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.4.8 Pd-LAH79-H₂O

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{LAH79}, \epsilon_2 = \text{Pd}, \epsilon_3 = \text{H}_2\text{O}$$

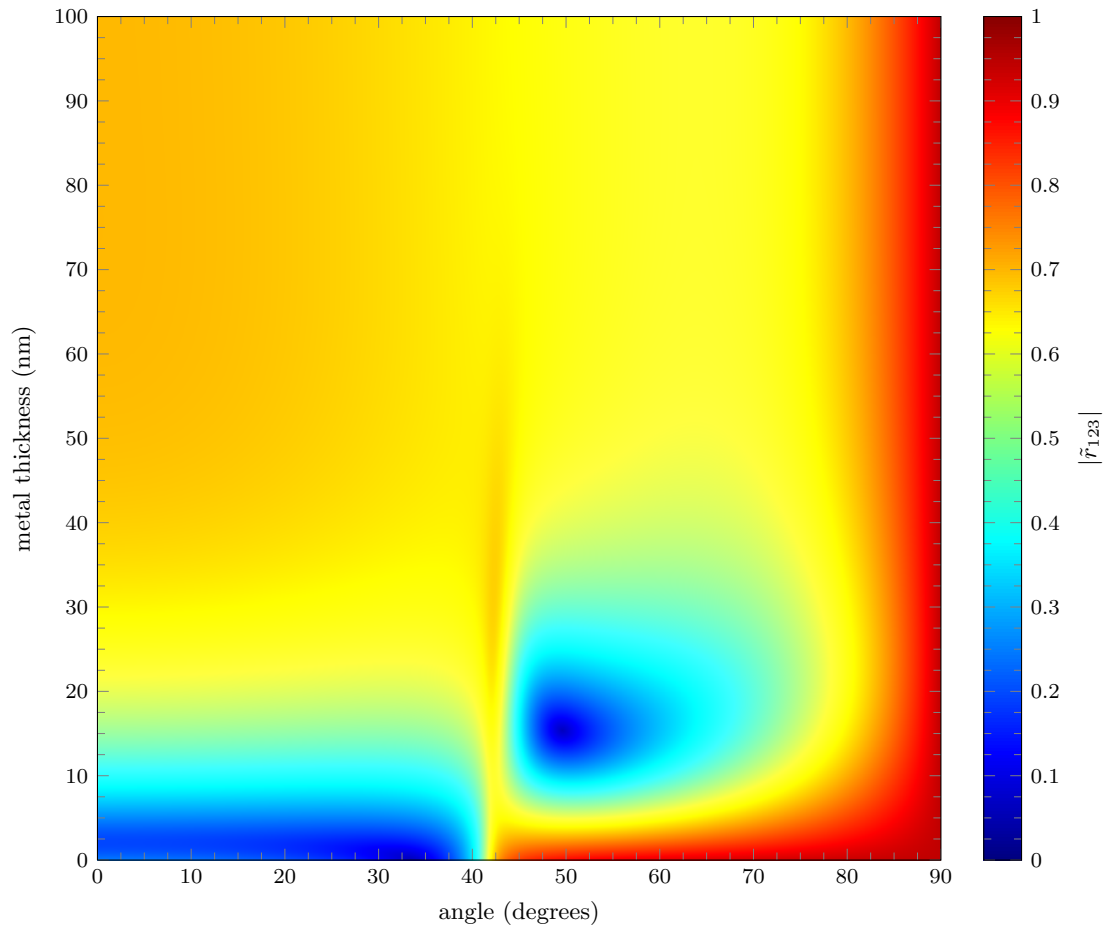


Figure 41: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Pd-LAH79-H₂O) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.4.9 Pt-LAH79-H₂O

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{LAH79}, \epsilon_2 = \text{Pt}, \epsilon_3 = \text{H}_2\text{O}$$

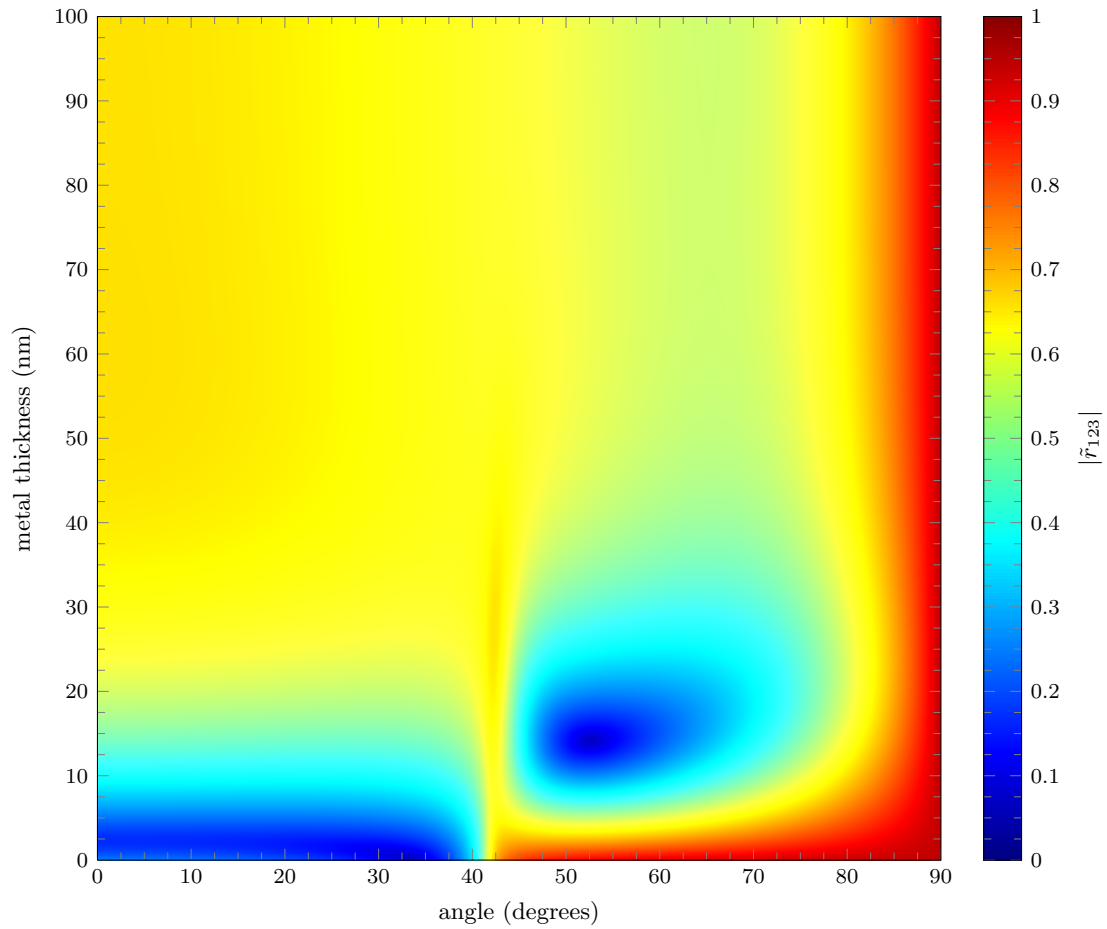


Figure 42: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Pt-LAH79-H₂O) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.4.10 Ti-LAH79-H₂O

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{LAH79}, \epsilon_2 = \text{Ti}, \epsilon_3 = \text{H}_2\text{O}$$

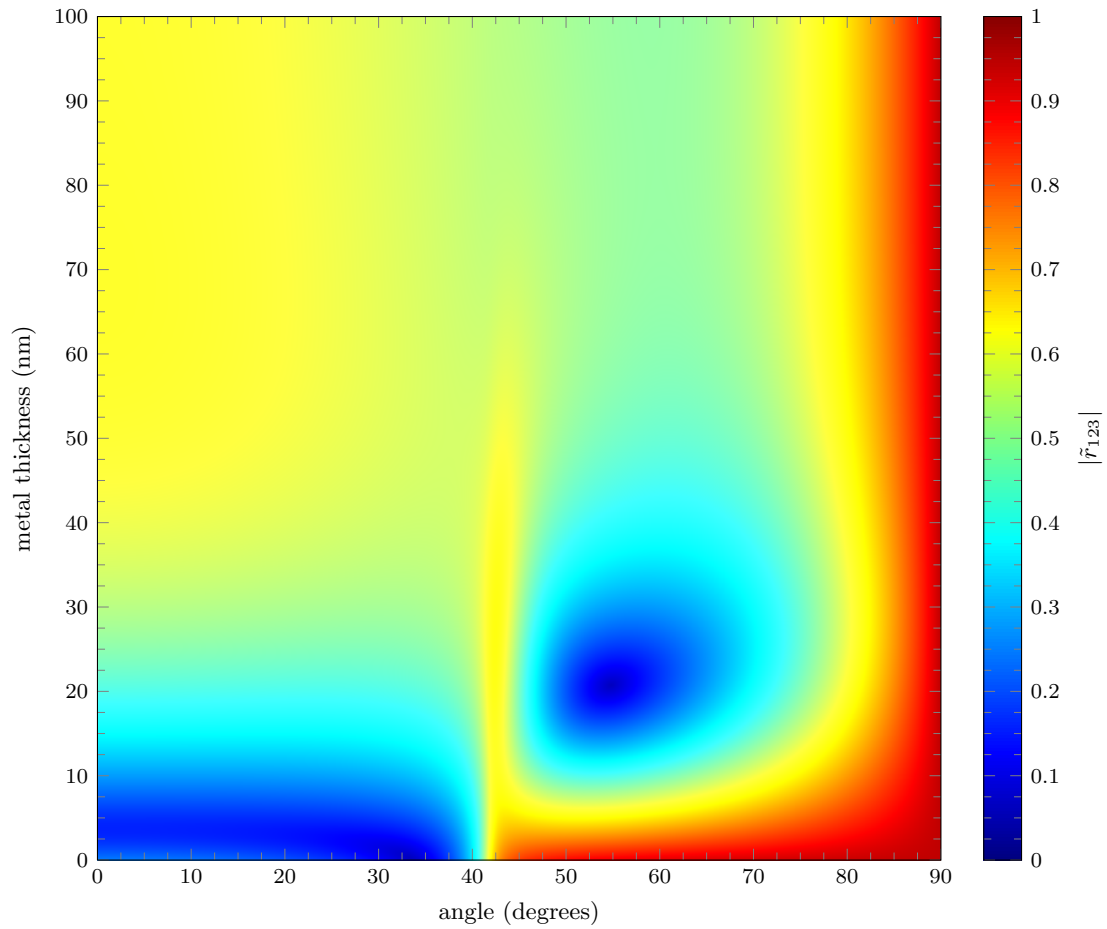


Figure 43: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (Ti-LAH79-H₂O) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??

0.4.11 W-LAH79-H₂O

$$\lambda_0 = 632.8 \text{ nm}, \epsilon_1 = \text{LAH79}, \epsilon_2 = \text{W}, \epsilon_3 = \text{H}_2\text{O}$$

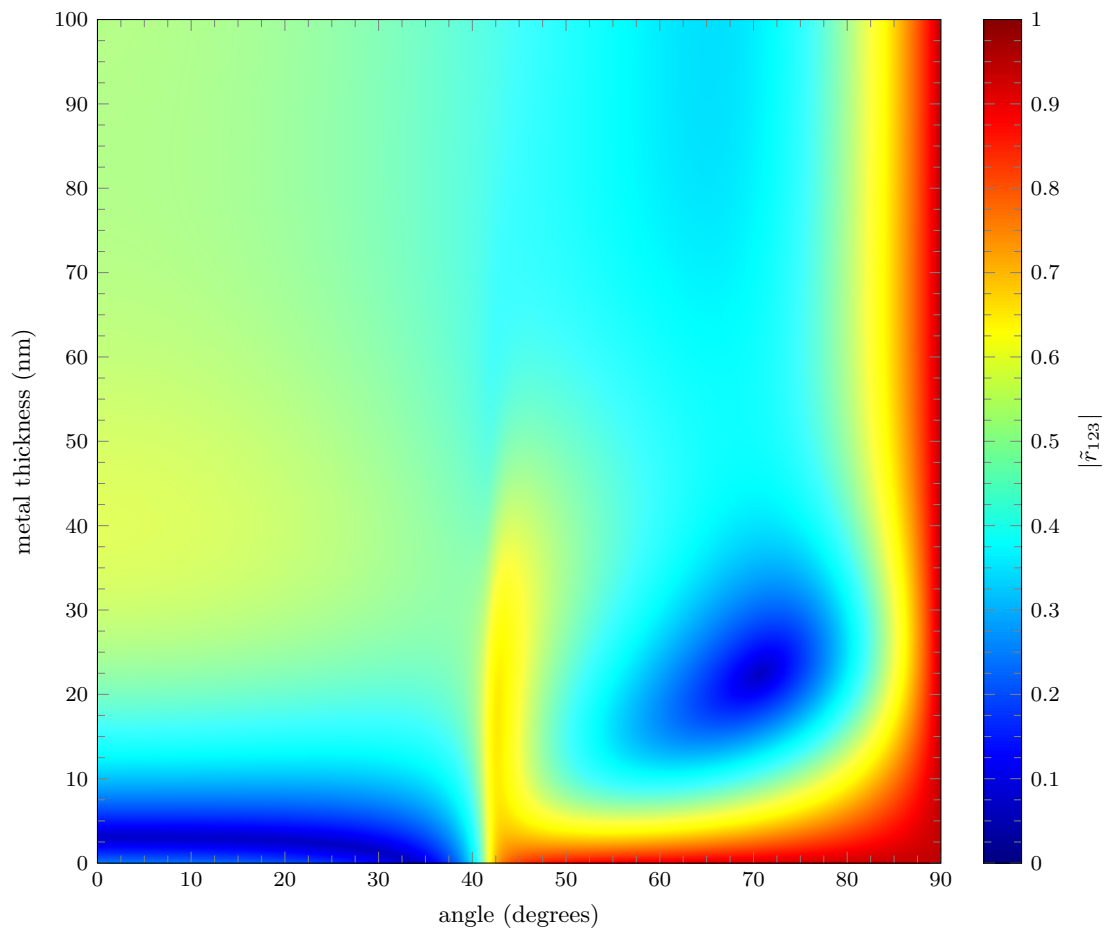


Figure 44: Reflection coefficient $|\tilde{r}_{123}|$ for the three layer fresnel system (W-LAH79-H₂O) as a function of incident angle and thickness of the metal layer ϵ_2 . Numeric values of the permittivity are found in Table ??