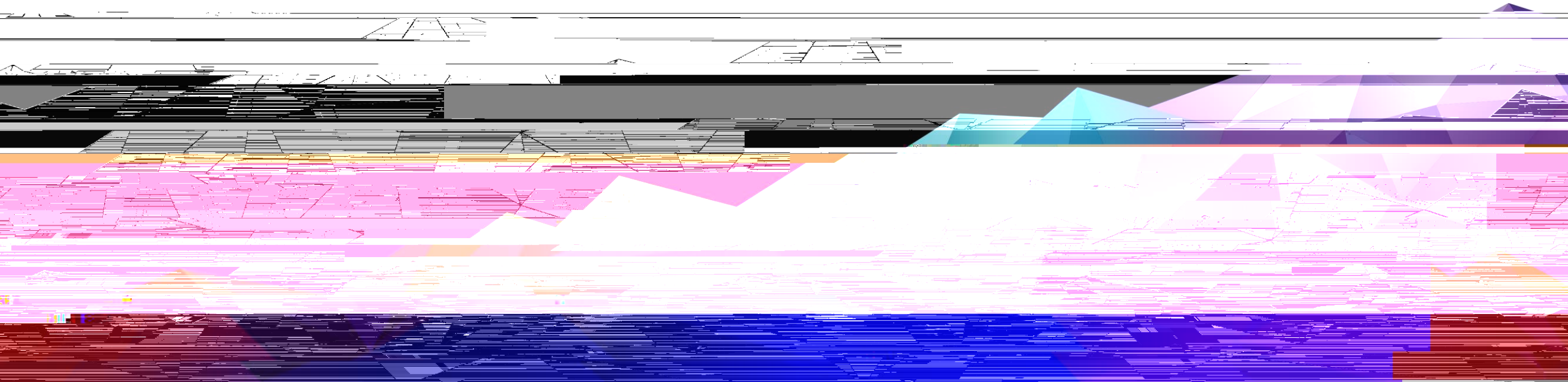
Designing Augmented/Virtual Reality Devices using Multi-Domain Optical Simulations

Simulation and Design Using RSoft Tools and LightTools



RSoft BSDF files:

Using the BSDF File in LightTools

Once the BSDF data has been generated in RSoft, it is a simple matter to integrate the data into the LightTools Model

Simply create an optical property for each grating

- Set the Type to User-Defined
- Select the UDOP_RSoftBSDF.dll, installed with RSoft Design Tools
- Select the imported BSDF data file

Then assign the new optical property in place of the existing nominal grating optical property

- You may need to rotate the zone 180 degrees to get the proper orientation

In the optical properties with RSoft UDOP interface, the parameters calculated in RSoft are

Sub-divide the Grating Zones

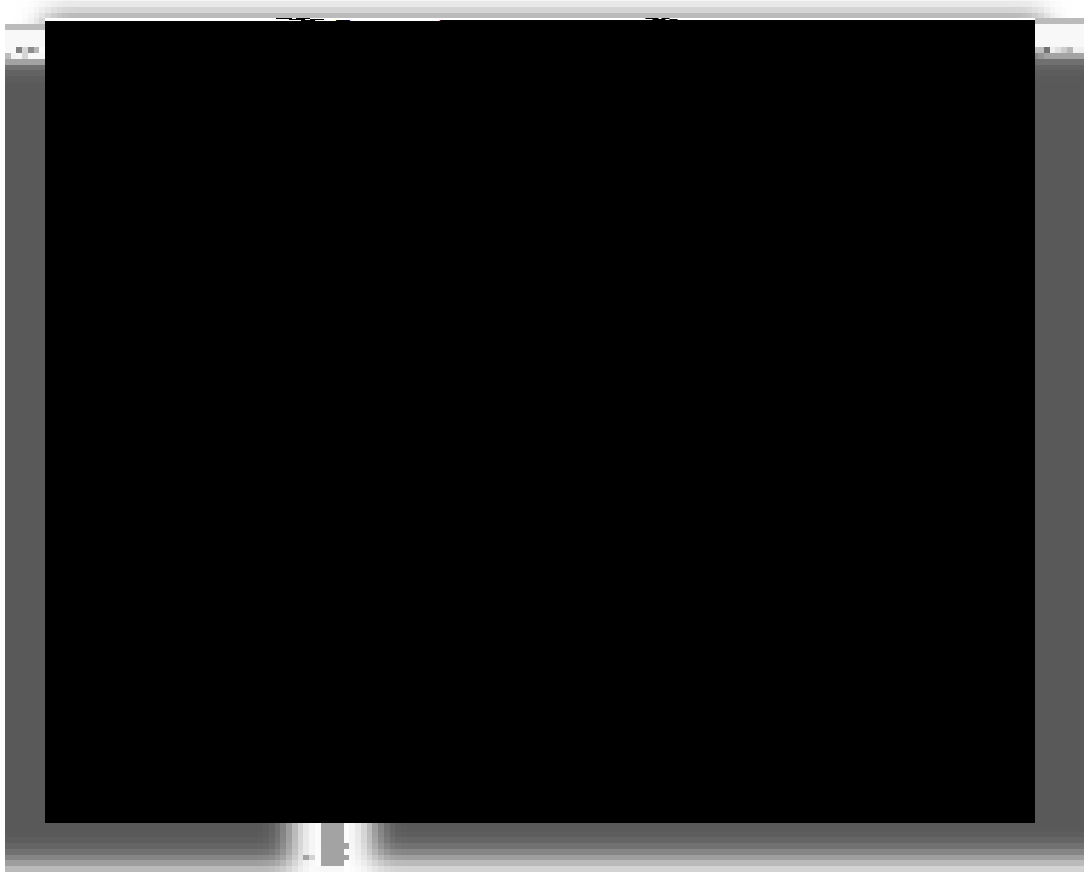
DOE2 and DOE3 are now sub-divided into 5 zones each

Each zone has its own optical property

Each grating property can then be optimized separately

To maximize the efficiency of the optimization the DOE2 was optimized first with the subzone furthest from DOE1 fixed for maximum extraction

Then DOE3 was optimized independently in a similar manner



Conclusion