

What's New in Radiance for 2017?

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Anywhere Software / LBNL / others

Bug Fixes & Related

- * Fixed issue with multiple records on picture output in `rcontrib` & `rfluxmtx`
- * Fixed Klems normalization (`wrapBSDF`)
- * Fixed old bug: `-aa 0` ignored textures
- * Added `MAX2SHADE` macro to avoid long start-up times with many sources
- * Fixed orientation of Reinhard & Tregenza sampling in `rfluxmtx`

Contributions

- * Roland Schregle added multiprocessing to photon-map routines
- * Worked with Rob Guglielmetti to get it to compile smoothly under Windows (where MP is not supported)
- * view360stereo.cal by Mark Stock
- * evalglare fixes from Jan Wienold

Feature Additions

- * New getinfo -a option
- * Added genBSDF -recover option
- * Rewrote bsdf2rad for better BSDF visualizations
- * Improved handling of “view” component in Klems & tensor tree BSDFs

Getinfo -a Option

- * Appends the specified arguments as individual lines to information header
- * Reads from stdin & writes to stdout

Add fisheye view to a picture:

```
getinfo -a "VIEW= -vta -vh 180 -vv  
180" < orig.hdr > modified.hdr
```

Add two comment lines to picture:

```
getinfo -a "# Comment 1" "# Comment 2"  
< orig.hdr > modified.hdr
```

genBSDF -recover

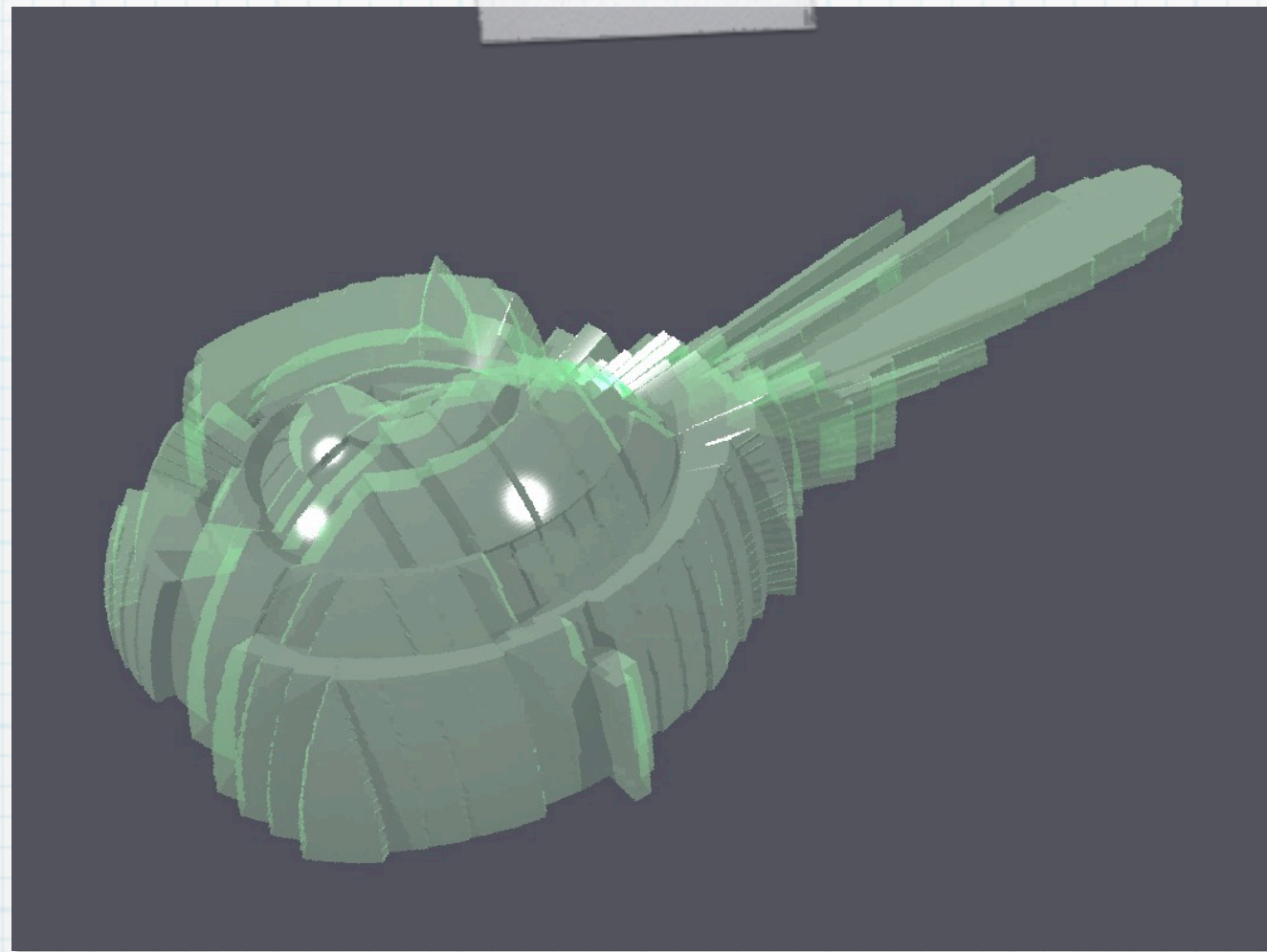
- * Starting genBSDF now prints to stderr:

Recover using: `/usr/local/bin/genBSDF -recover /tmp/genBSDF.rndm`

- * If the calculation is interrupted, running this picks up where it left off in the process
 - * Don't forget to redirect the new output!
- * Feature request from Lars Grobe

New bsdf2rad Program

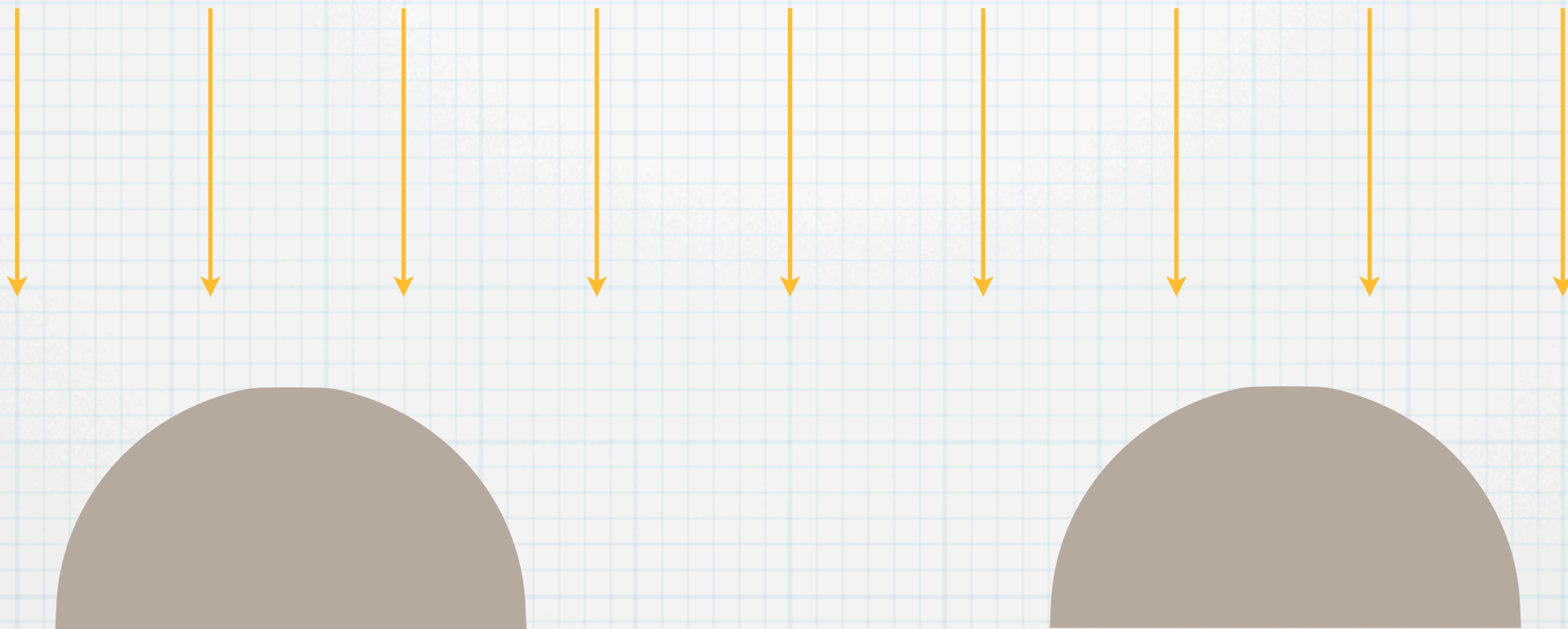
- * Original was used for debugging
- * Created surface mesh of scattering for given incident direction (θ, ϕ)
- * New version arranges a selection of incident angles on front & back-facing hemispheres



bsdf2rad koolshade_tt.xml 38 27

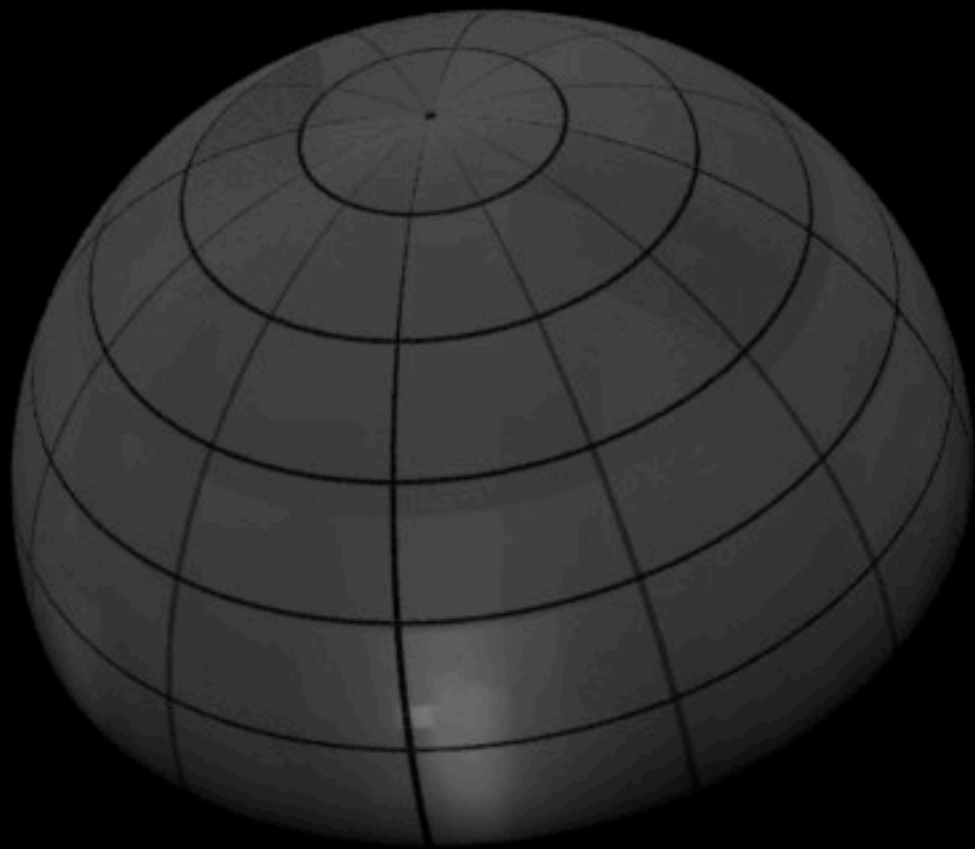
Old bsdf2rad

New bsdf2rad

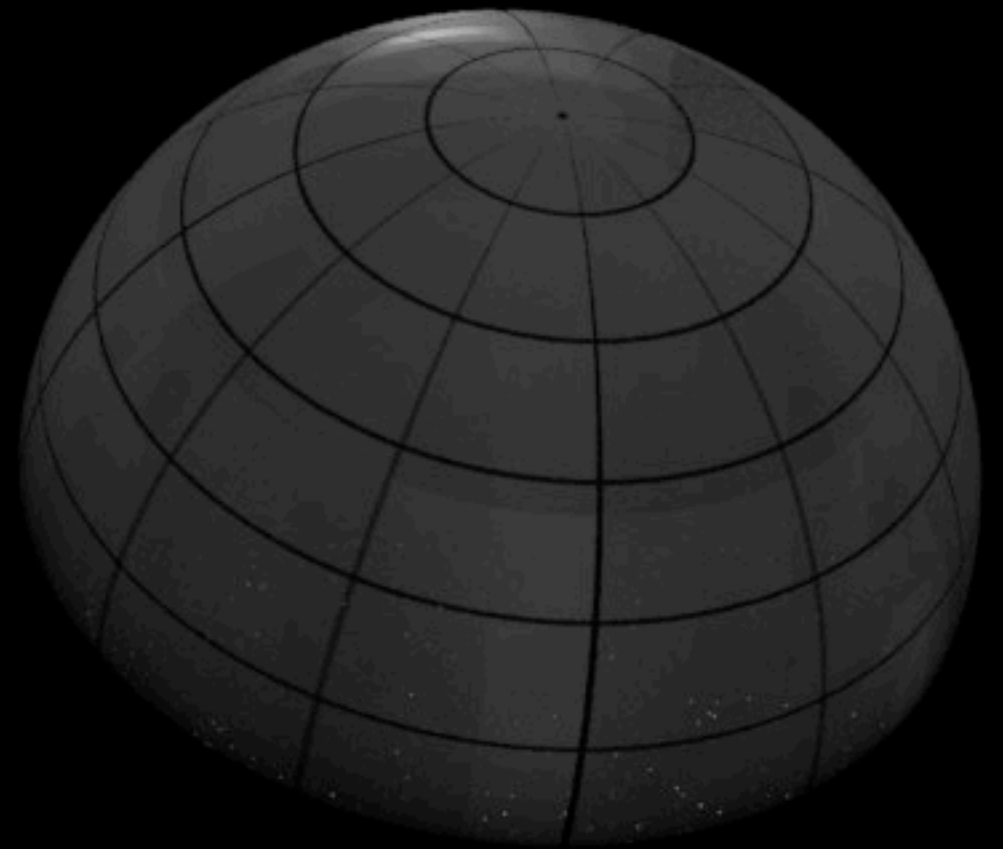


Back (left) and front (right) hemispheres of
BSDF material illuminated from directly overhead

New bsdf2rad (1)



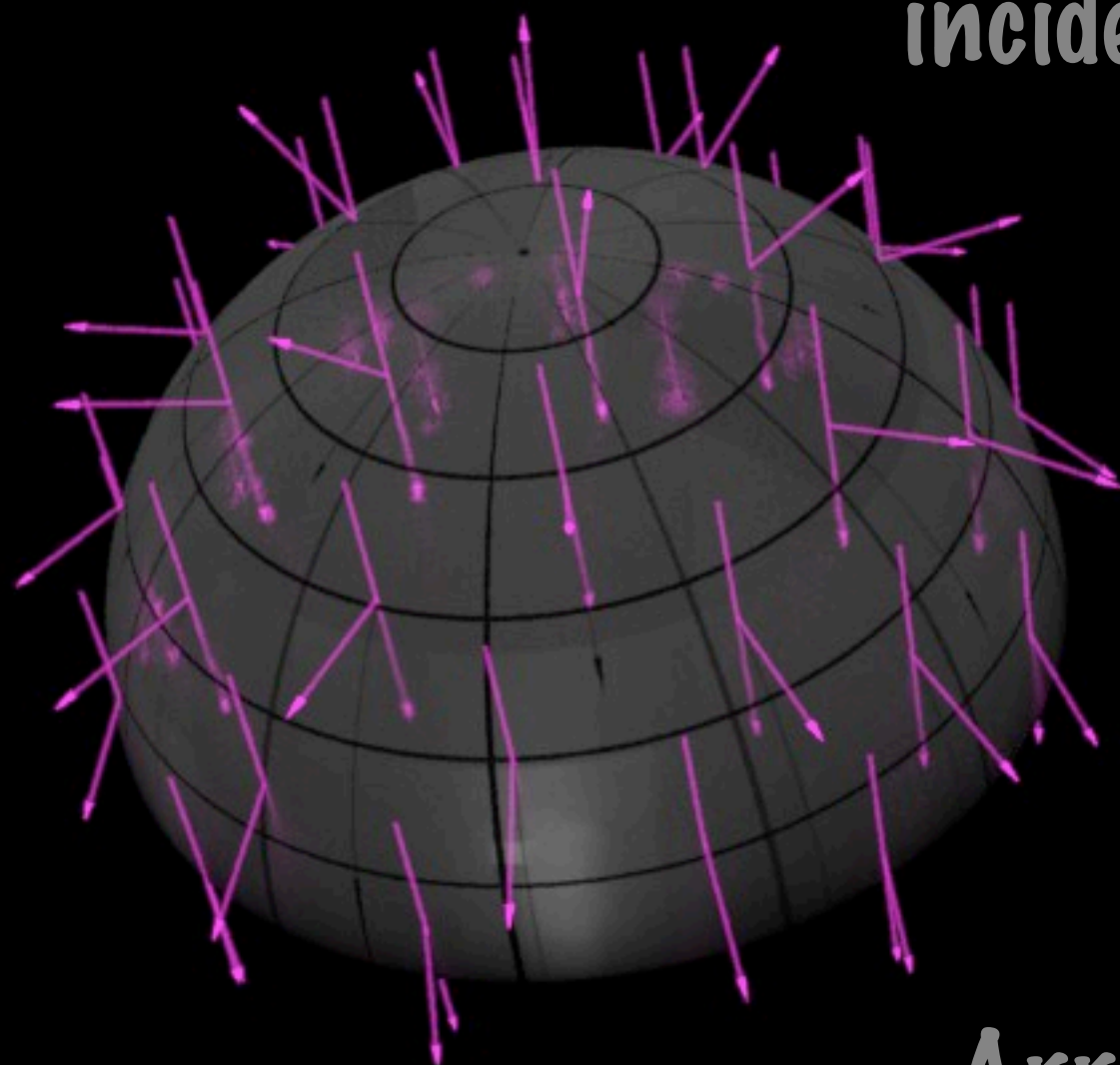
BACK



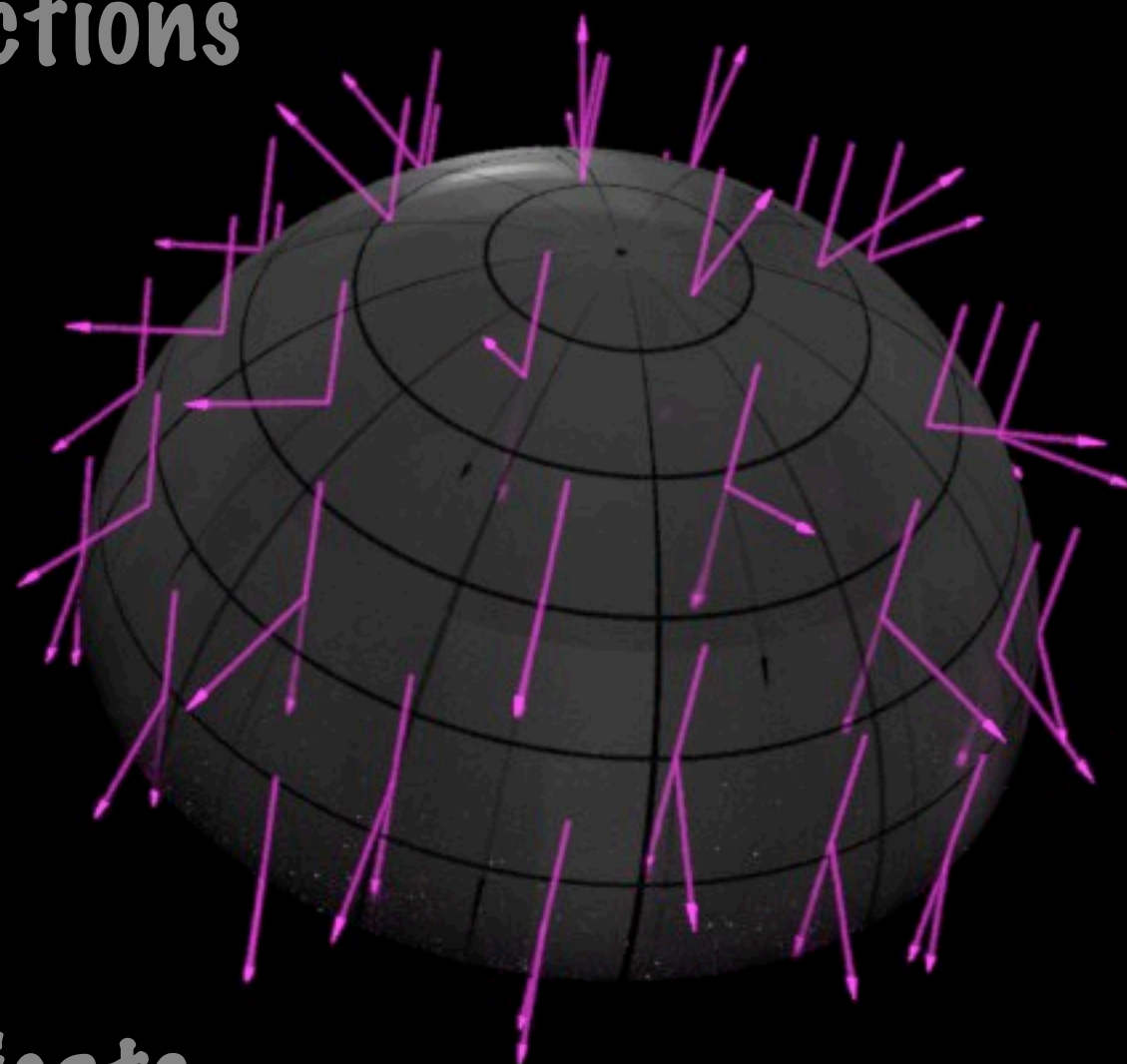
FRONT

New bsdf2rad (2)

Selection of
incident directions



BACK

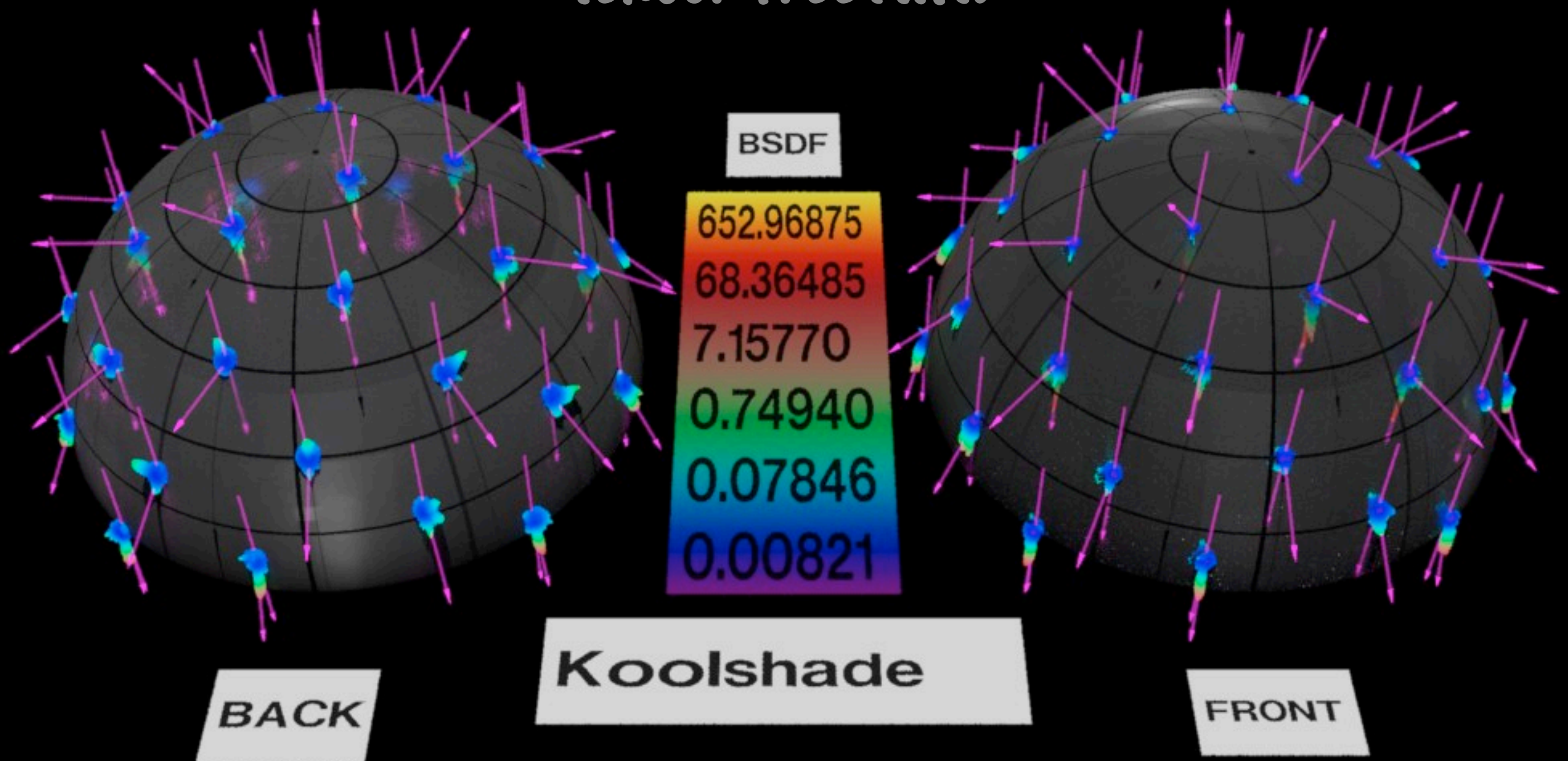


FRONT

Arrows indicate
mirror & view directions

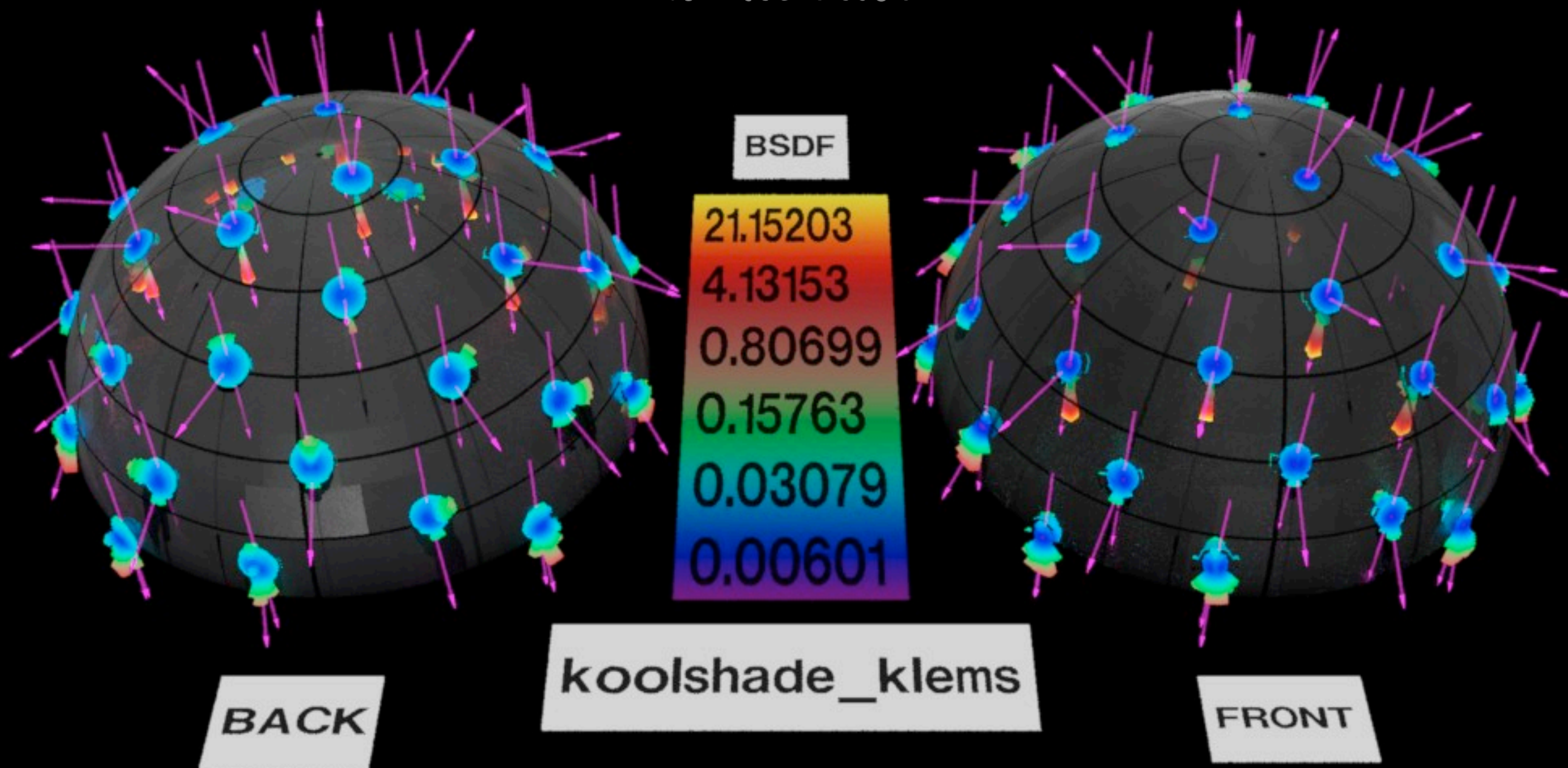
New bsdf2rad (3)

Tensor tree XML



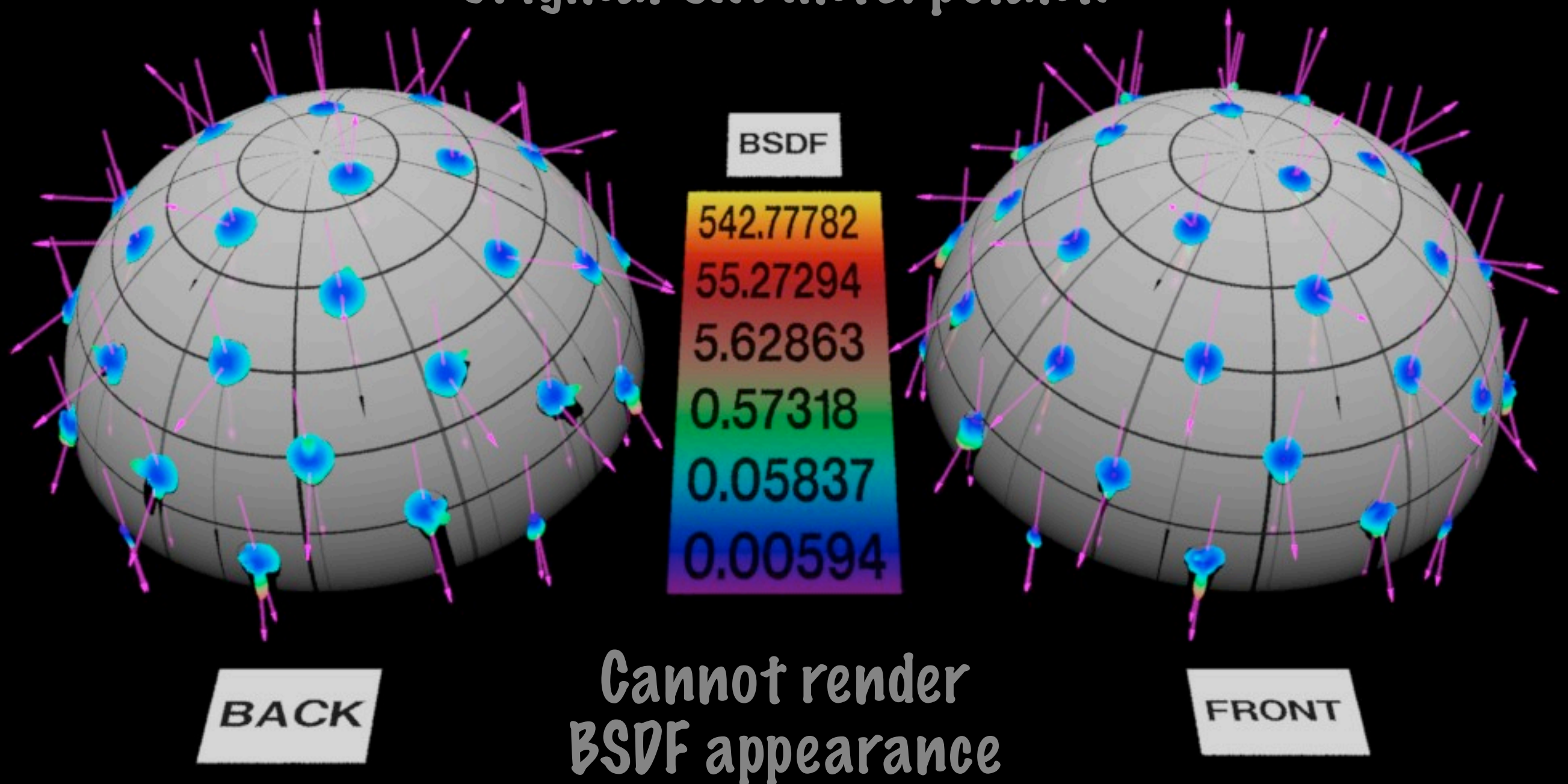
New bsdf2rad (4)

Klems XML



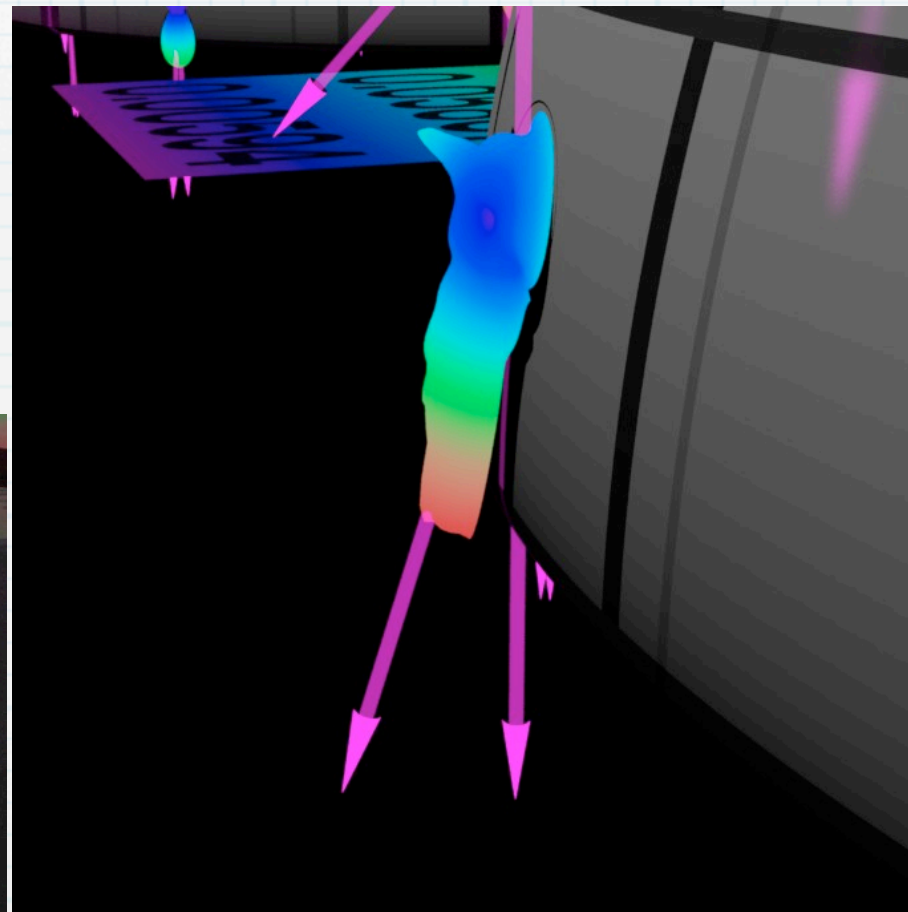
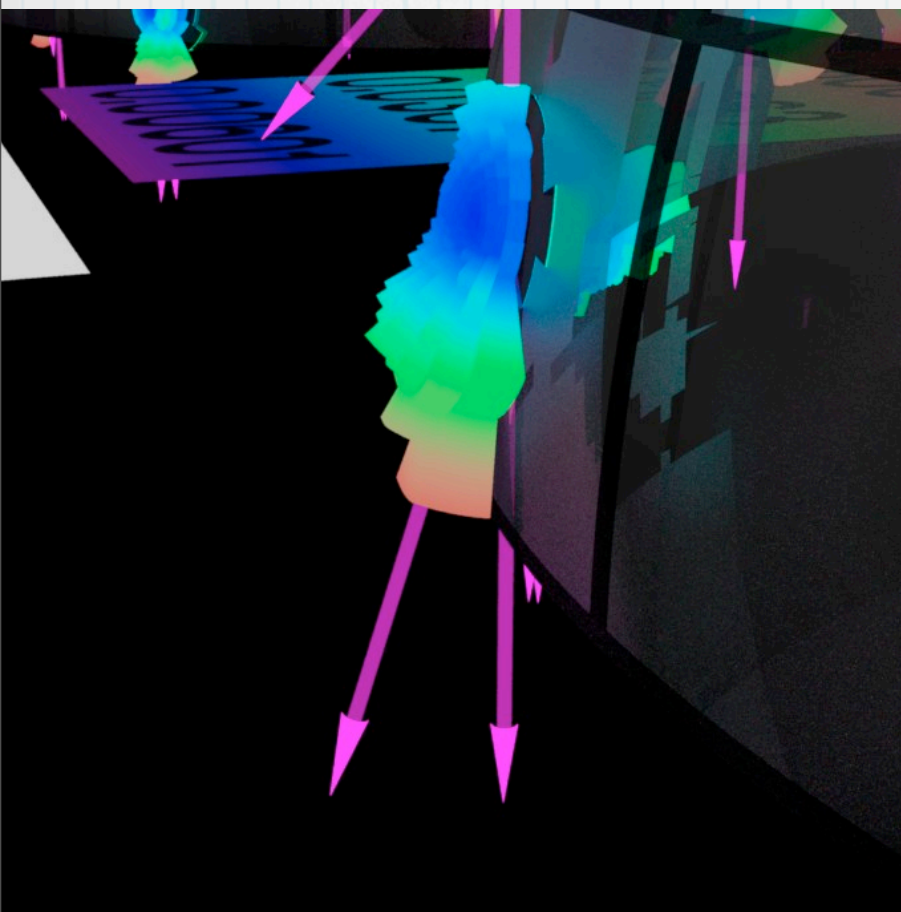
New bsdf2rad (5)

Original SLR (interpolant)



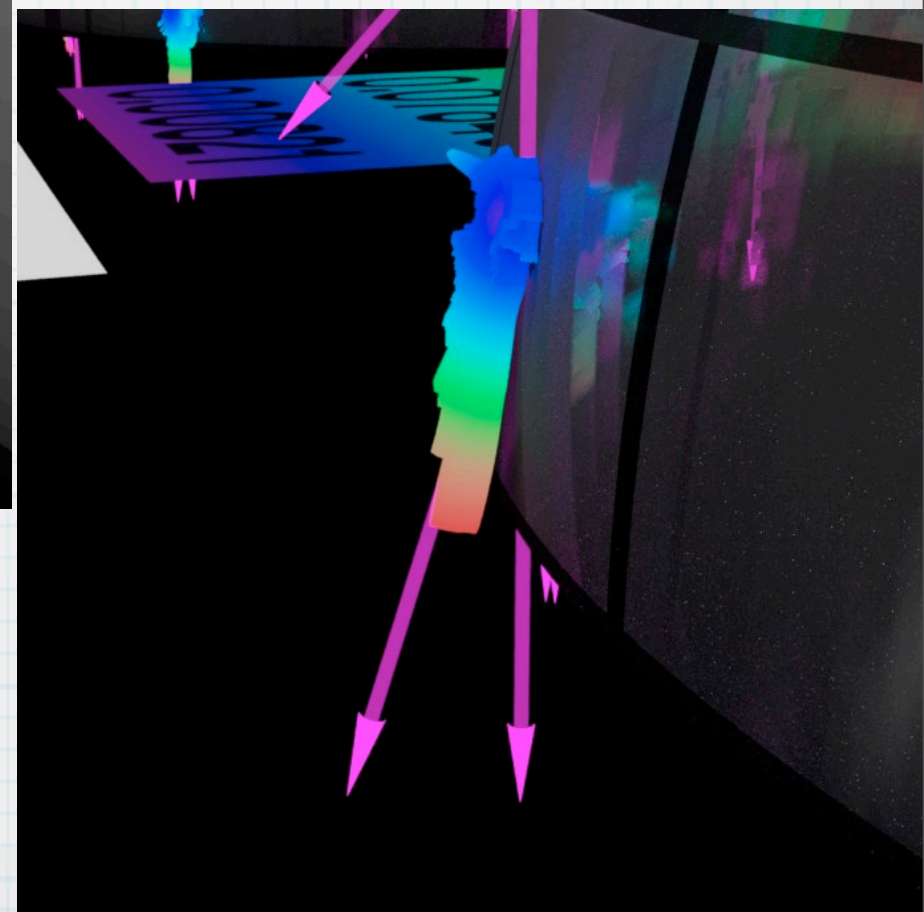
Close-up of Front Reflection

Klems

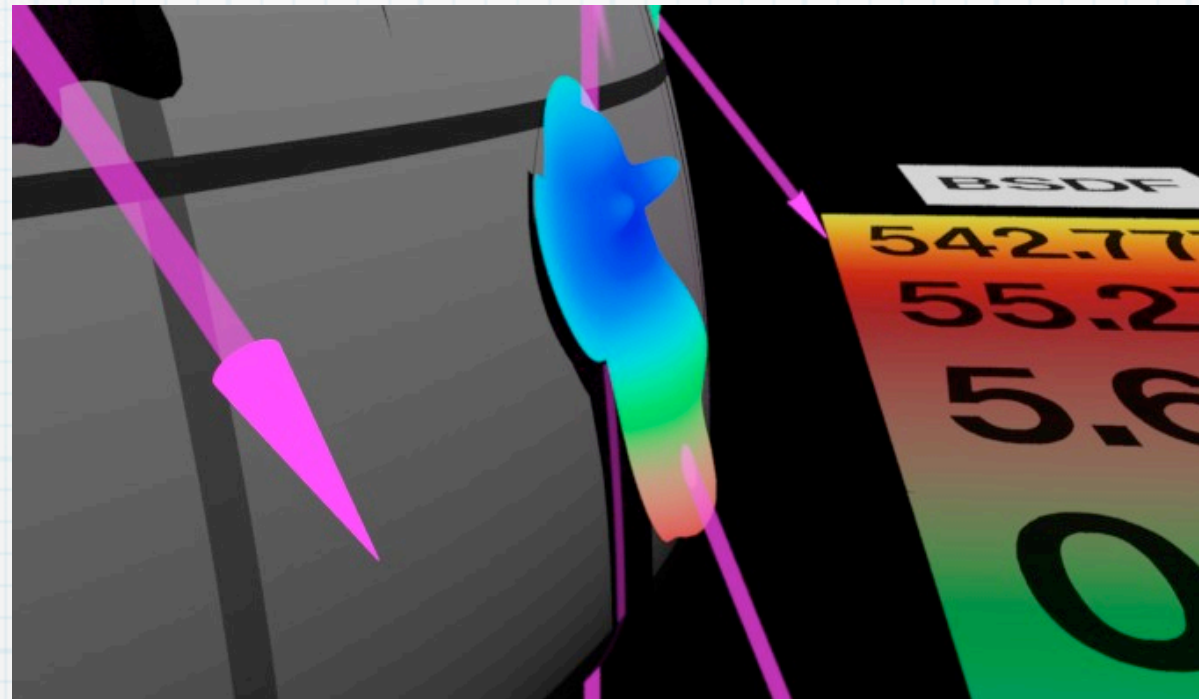


SIR

Tensor Tree

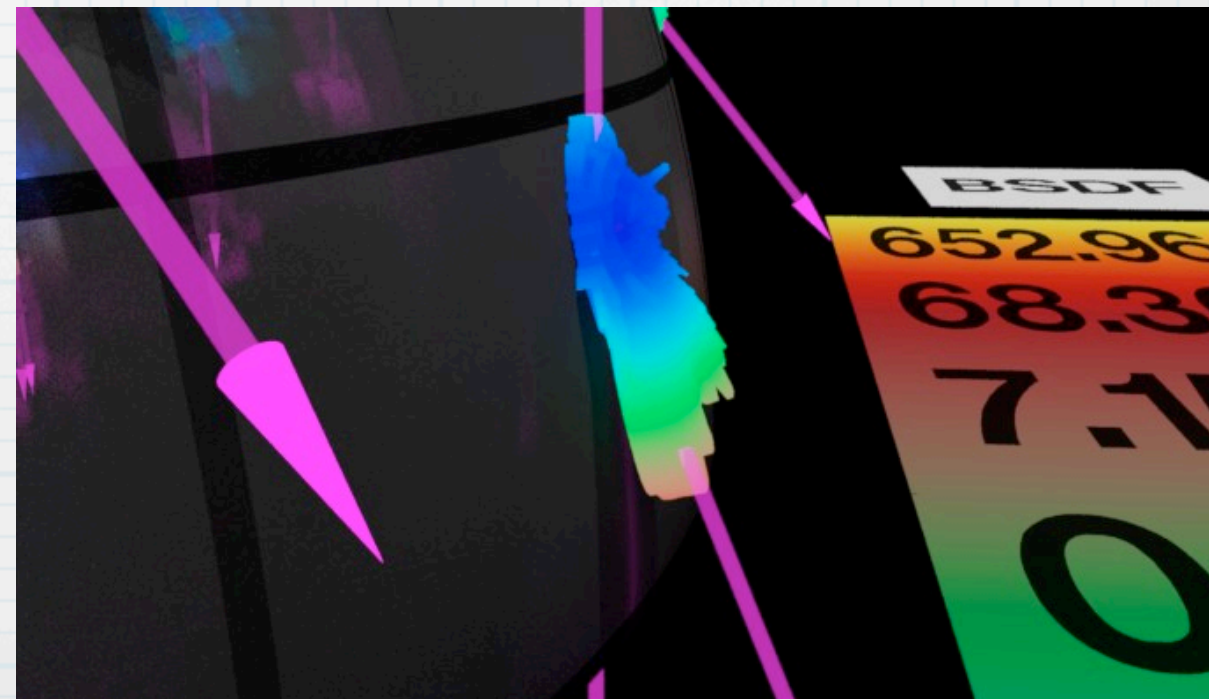
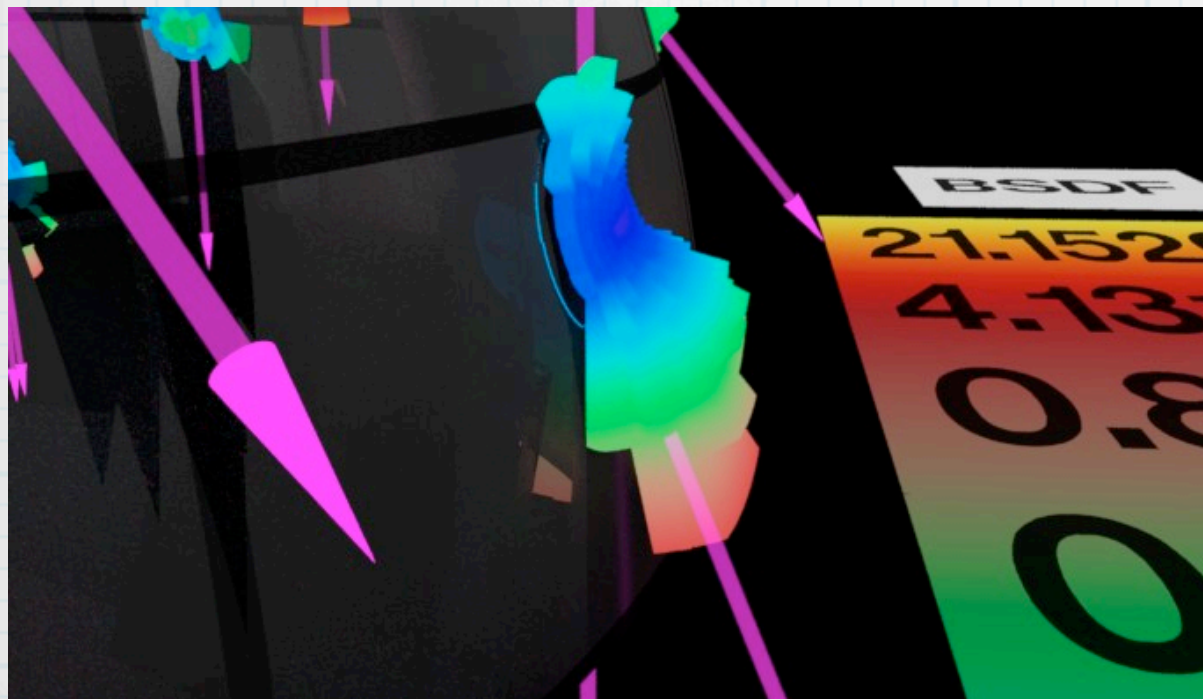


Close-up of Back Reflection



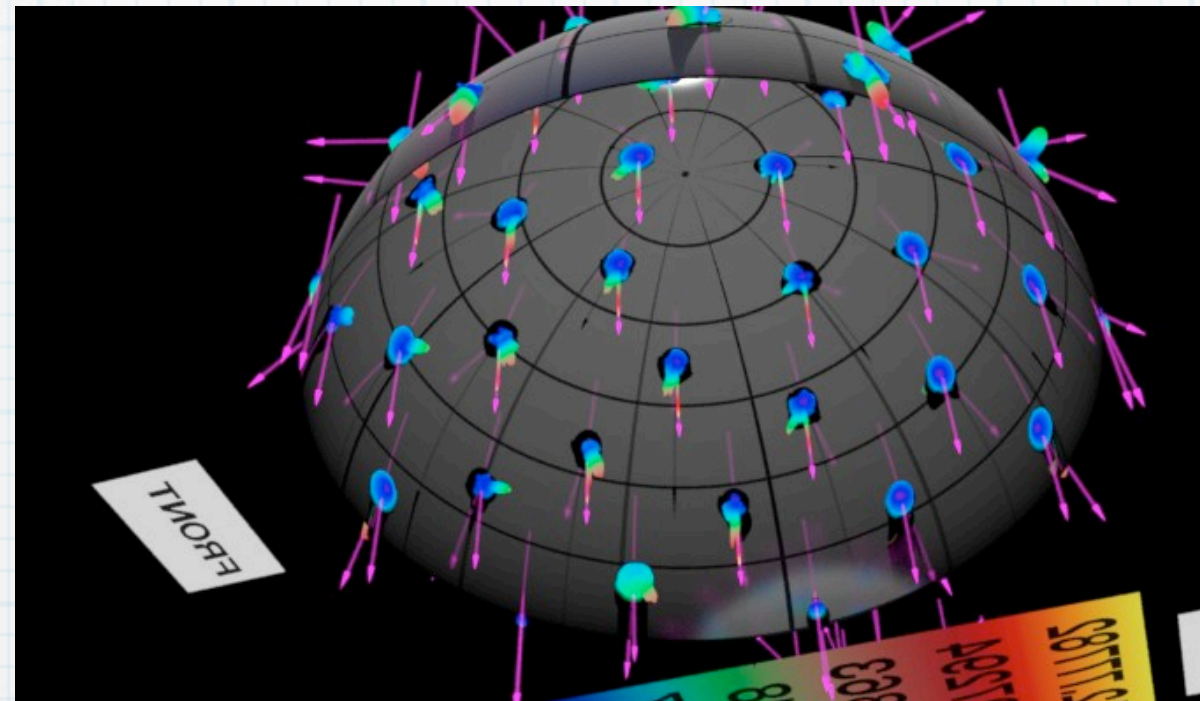
Kleins

Tensor Tree

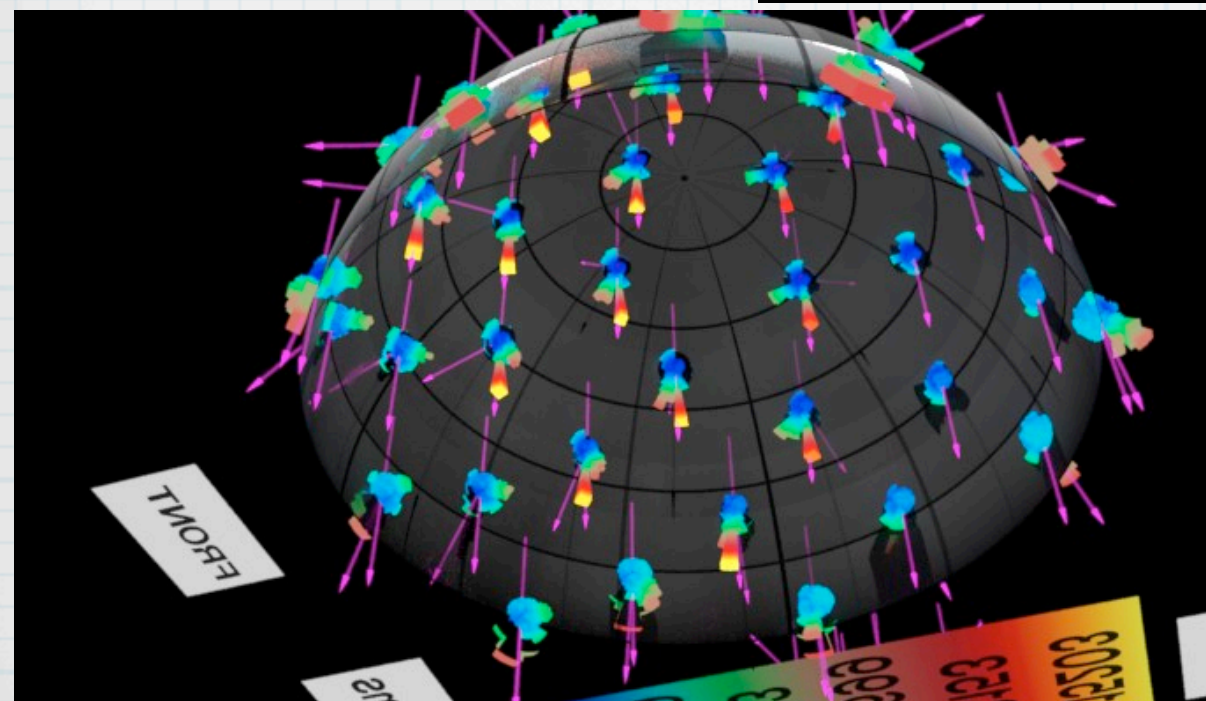
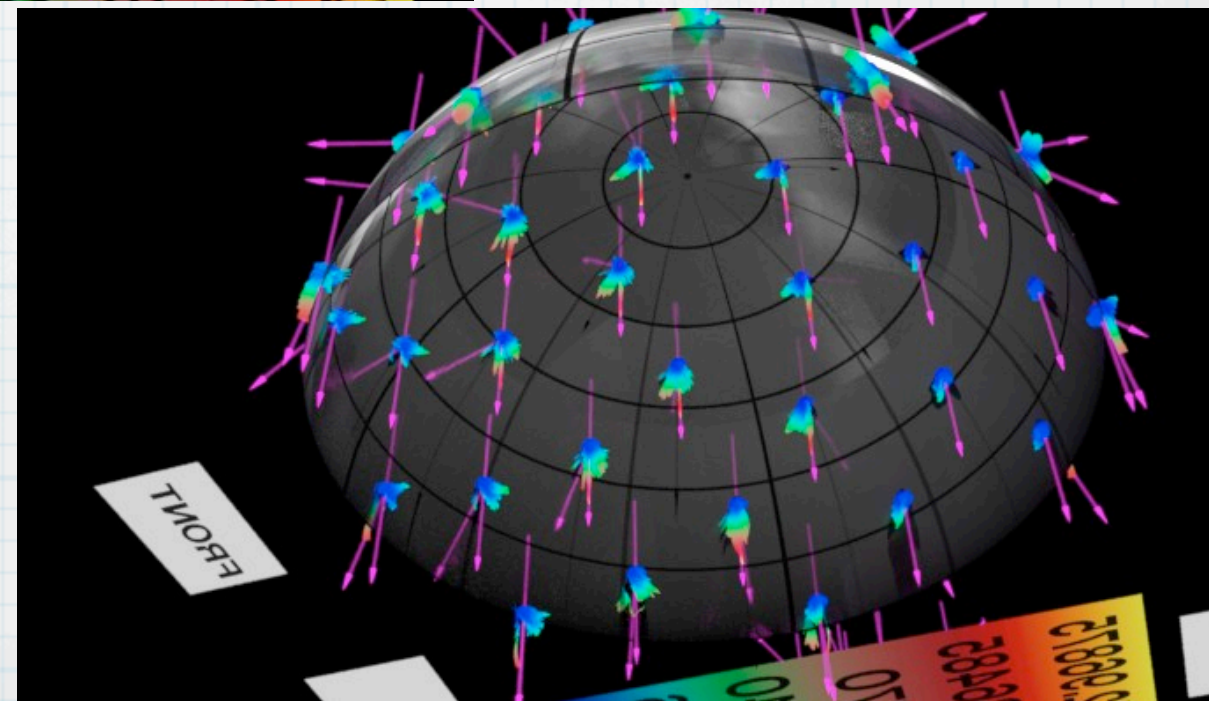


Overview of Front Transmission

Klems

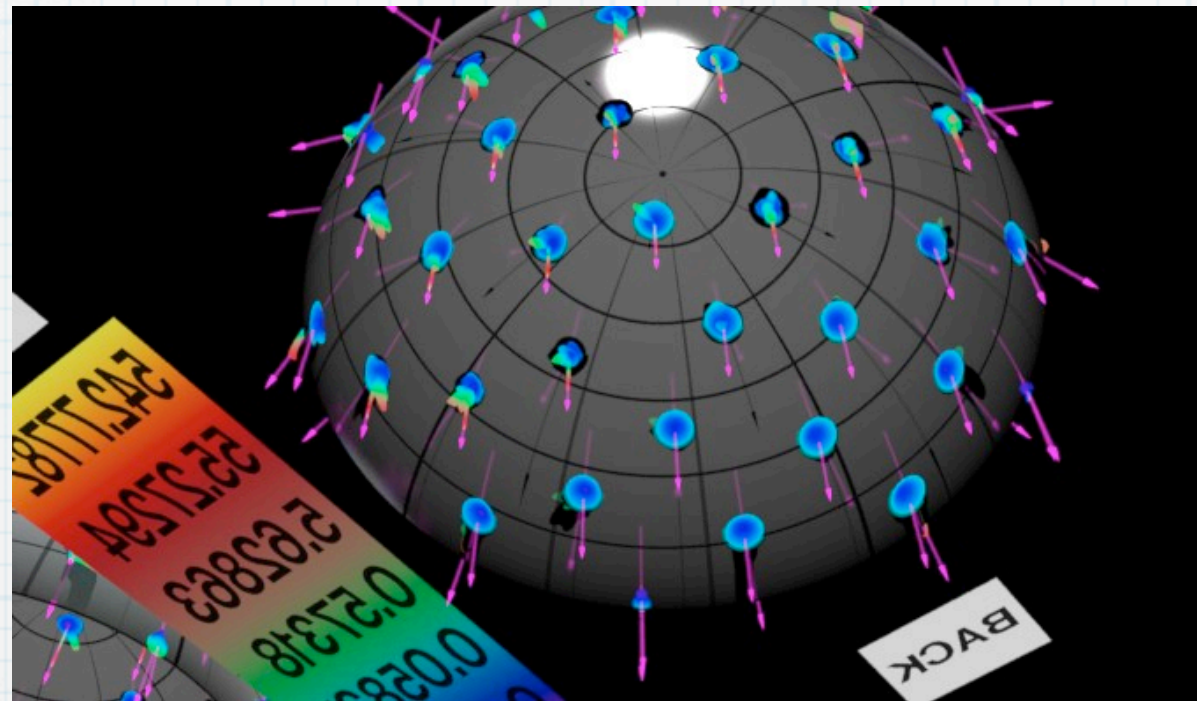


Tensor Tree

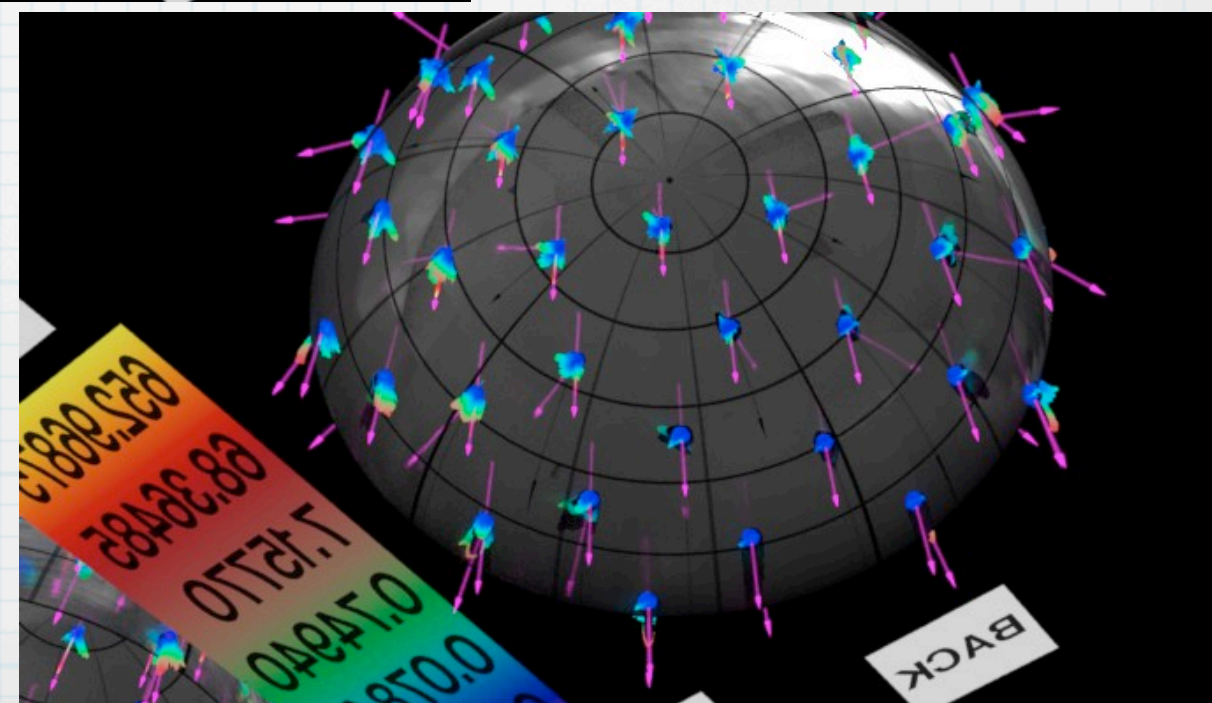
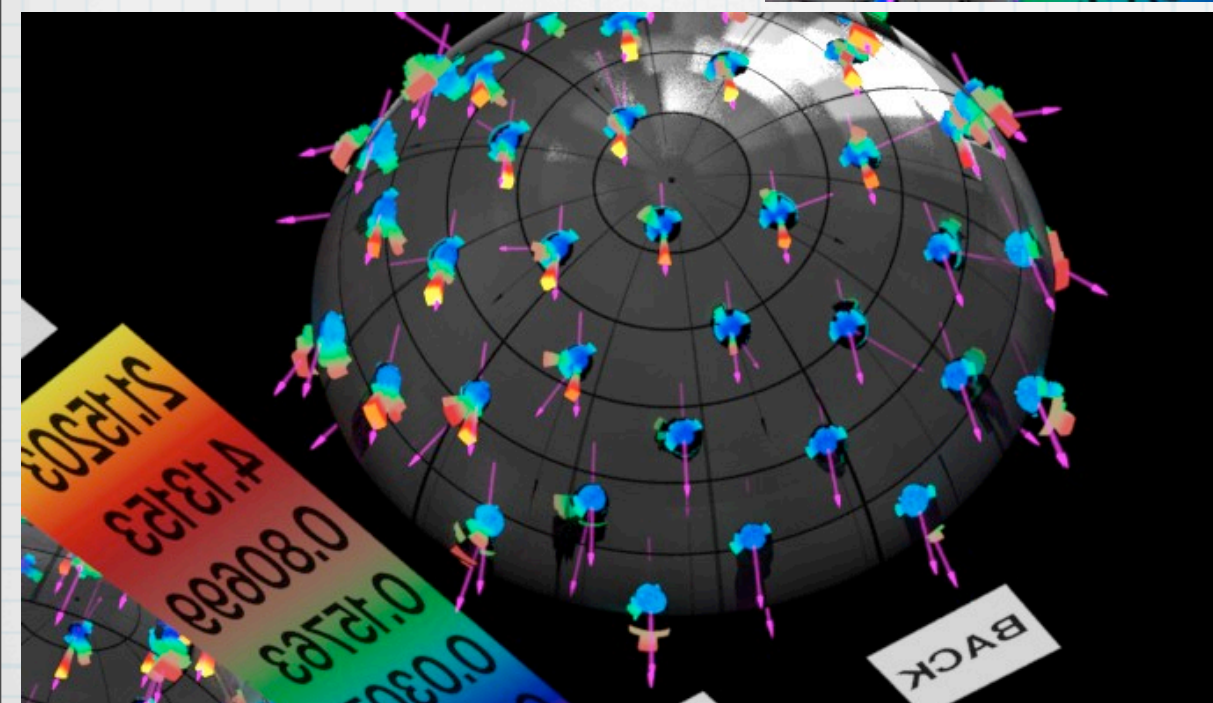


Overview of Back Transmission

Kleins

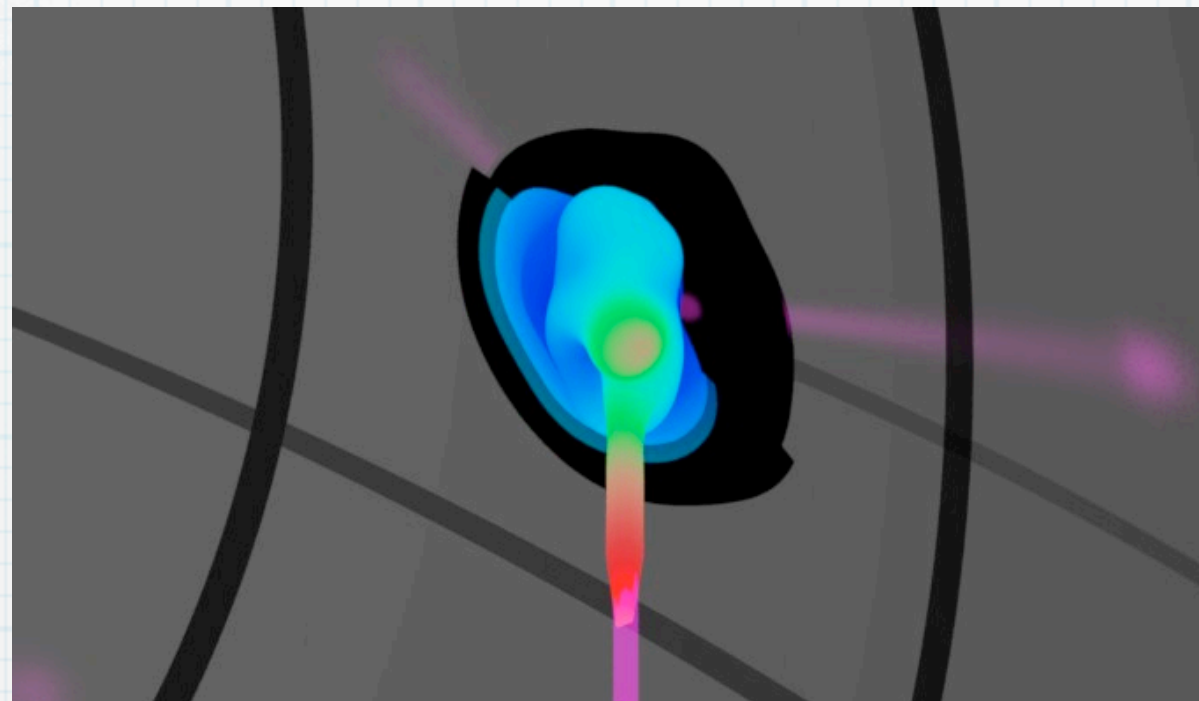


Tensor Tree

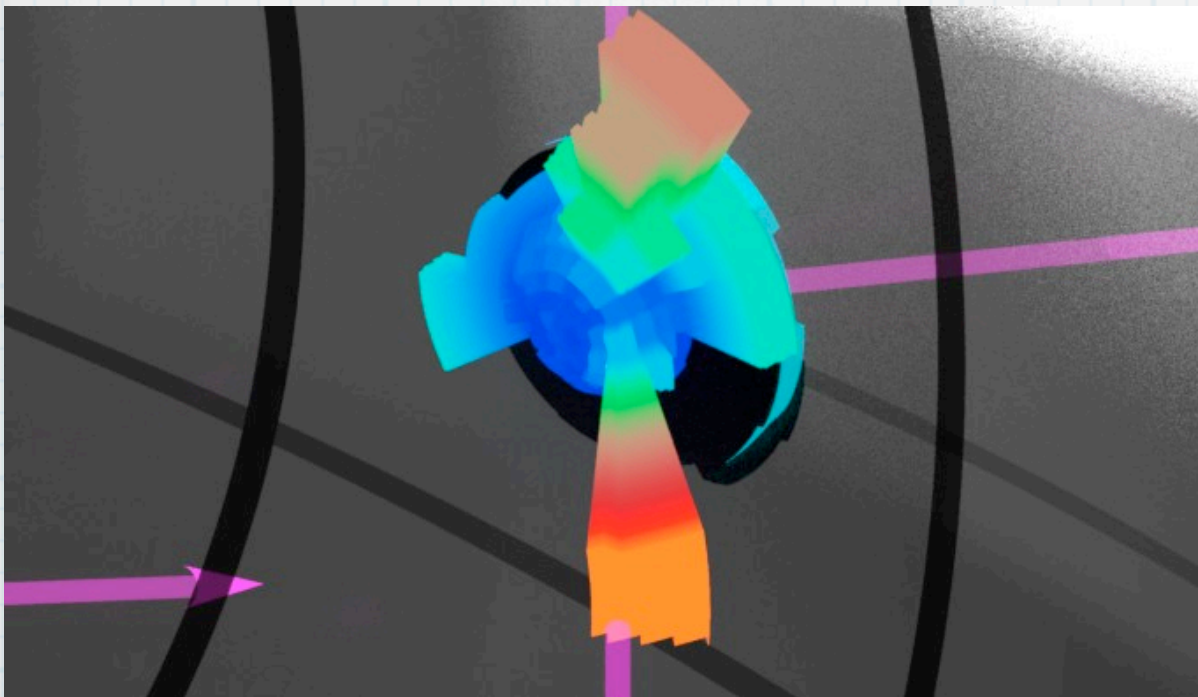
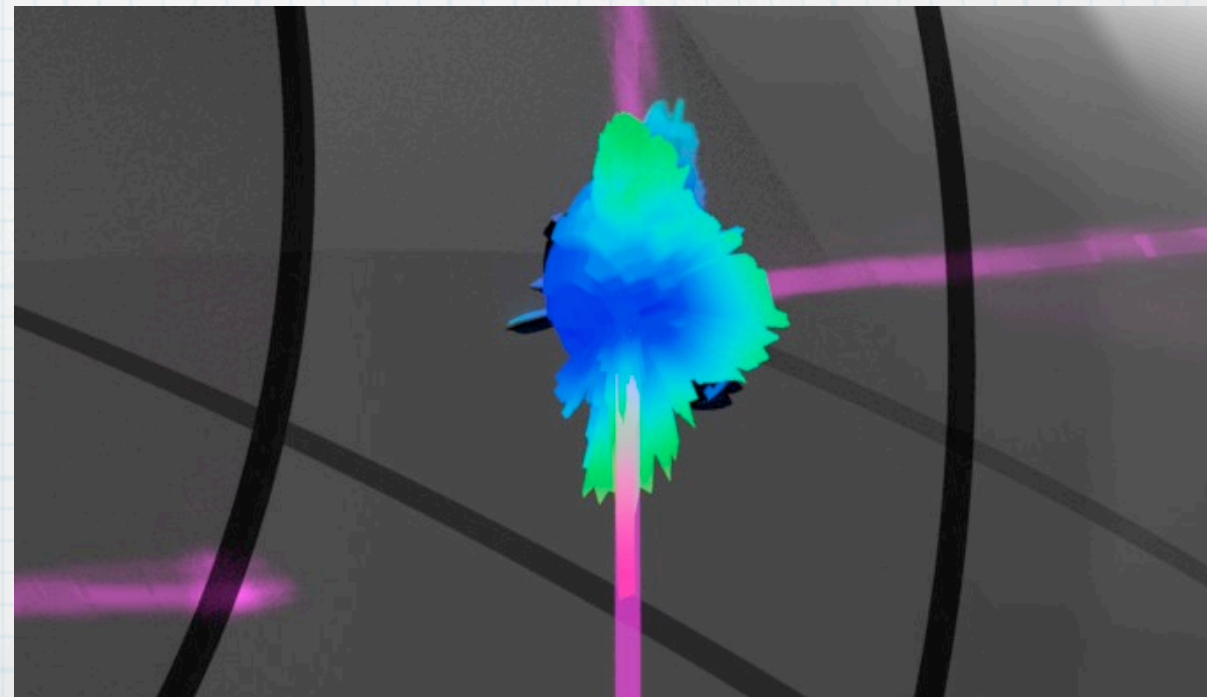


Close-up of Front Transmission

Klems



Tensor Tree

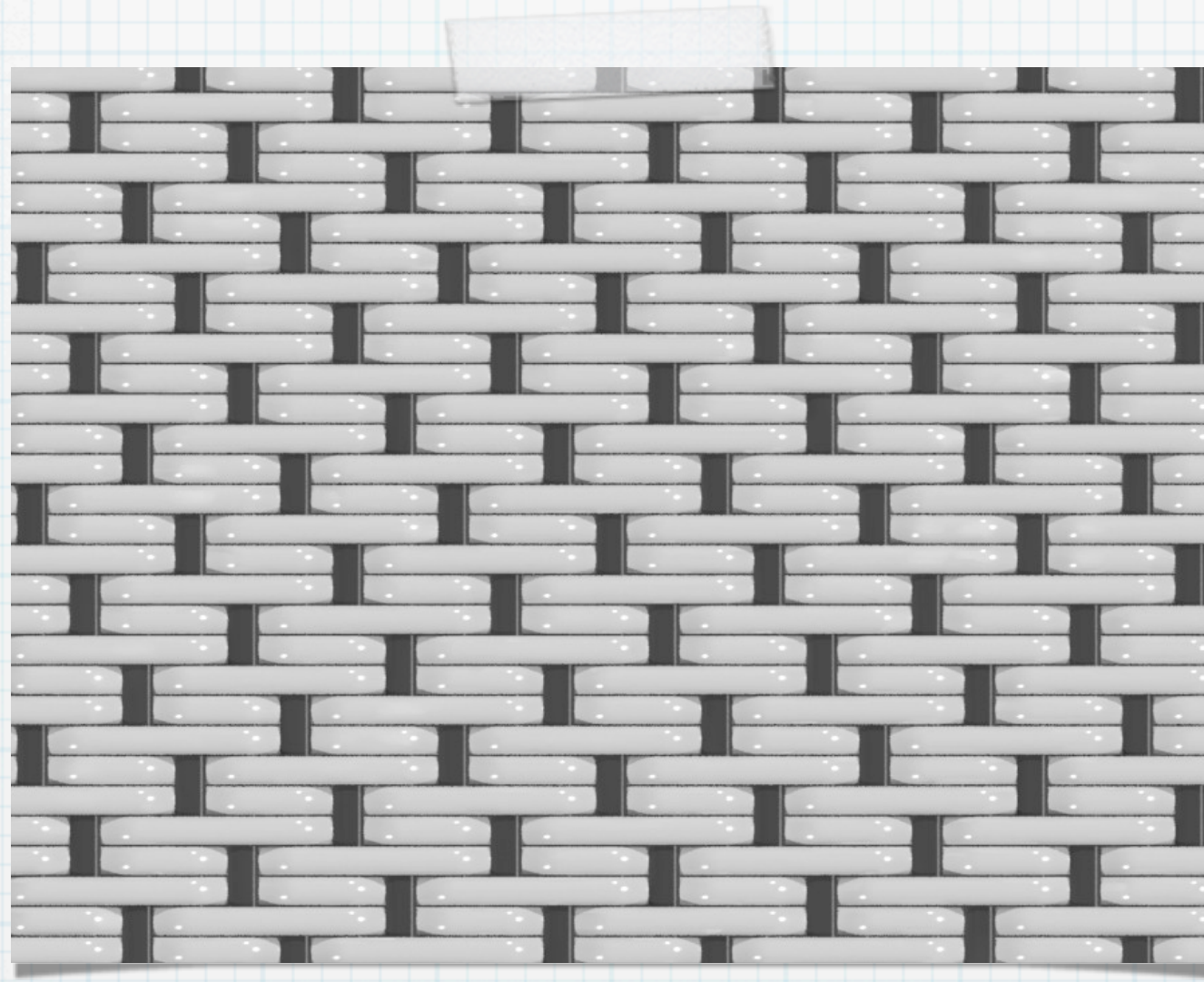


bsdfview script

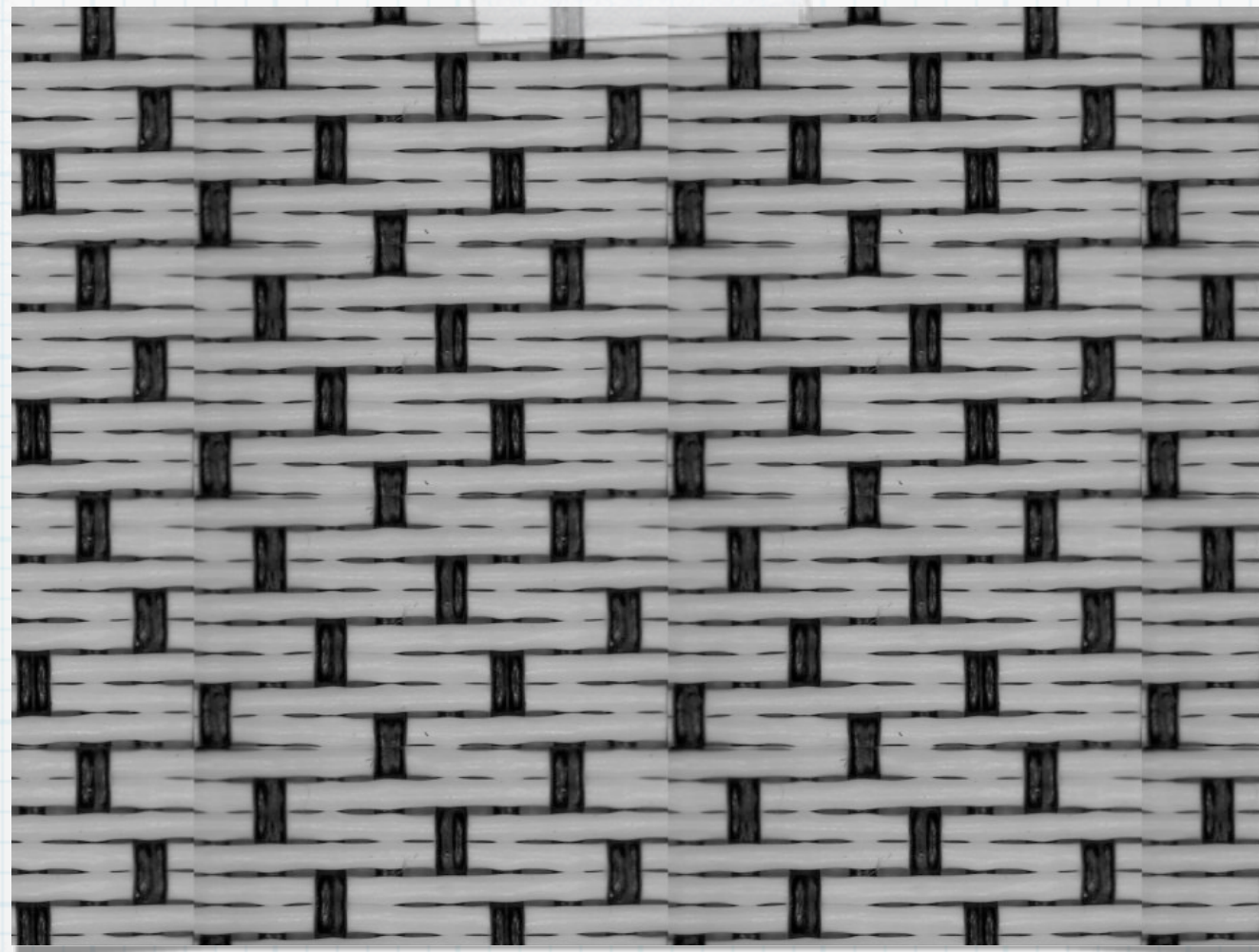
- * Creates rad input file for given BSDF
- * Starts rad in interactive mode
 - * use '-t' option to start trad, instead
- * Provides a number of standard views
- * Keeps octree around until OS reboot

Improved Handling of "View" Components

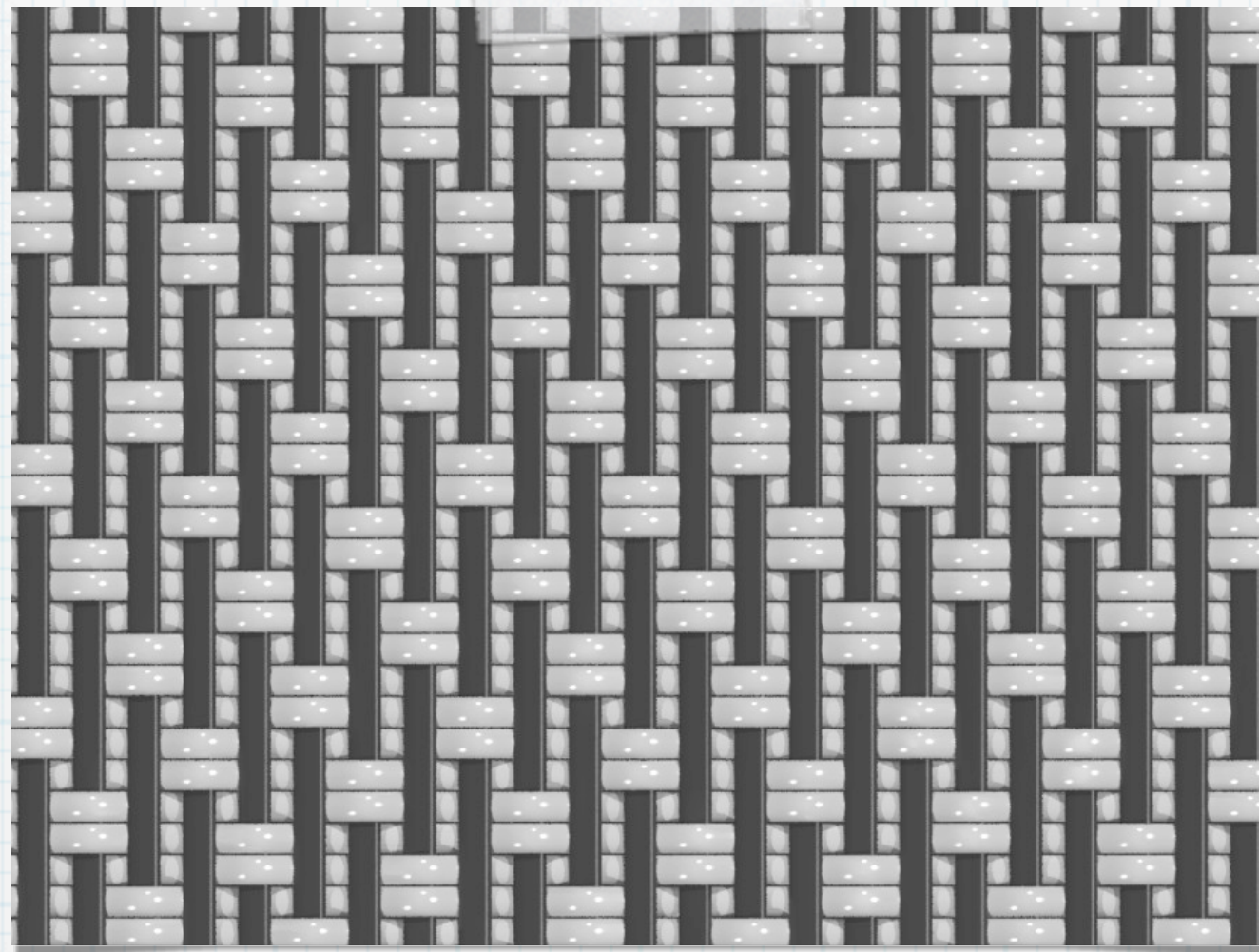
- * `HEAD m_bsdf.c` now detects strong "view" component & treats specially
- * Shadow-testing now functions through shades, venetian blinds, etc.
- * Both Klems & tensor tree supported
- * Direct view through such systems also



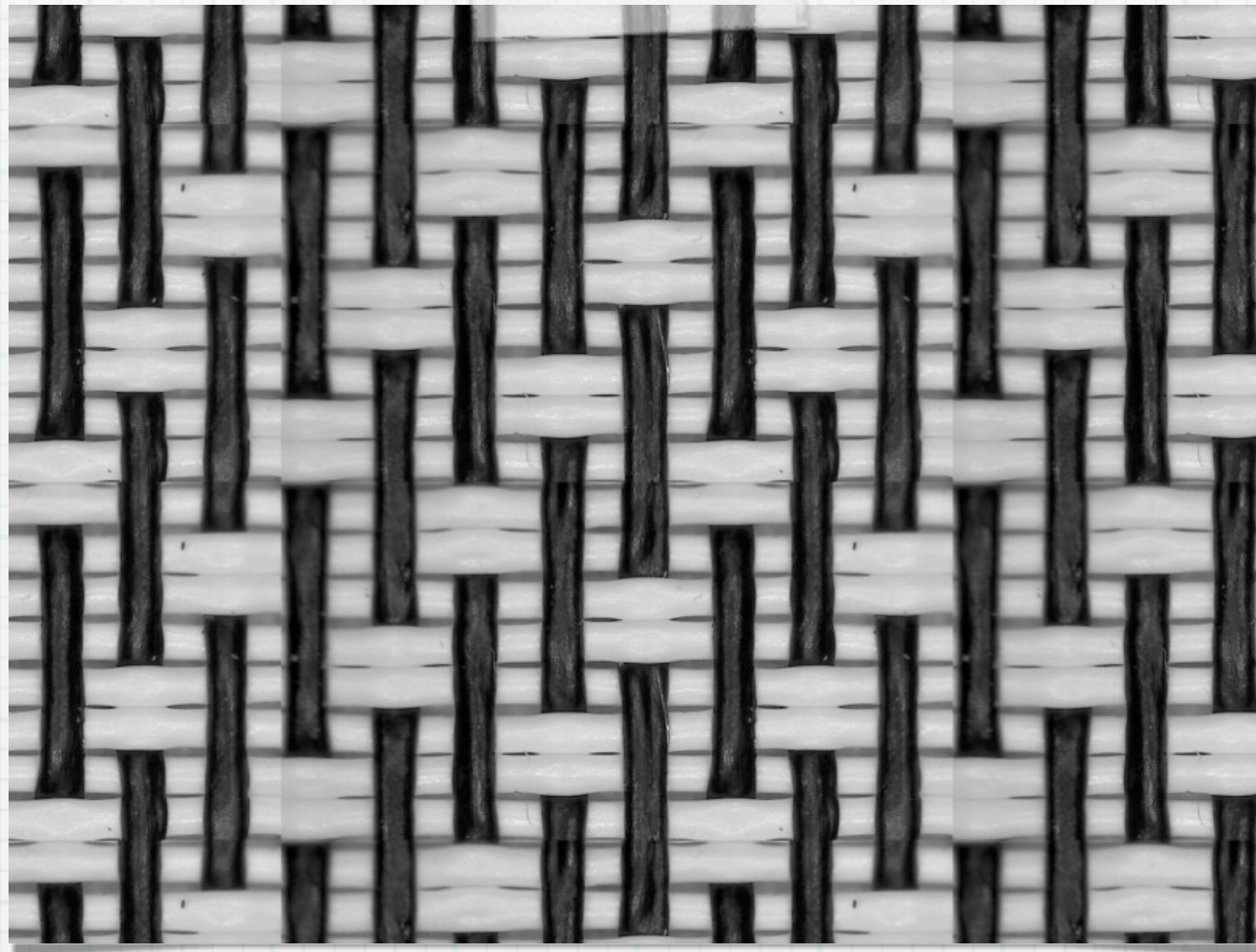
Example Shade Model



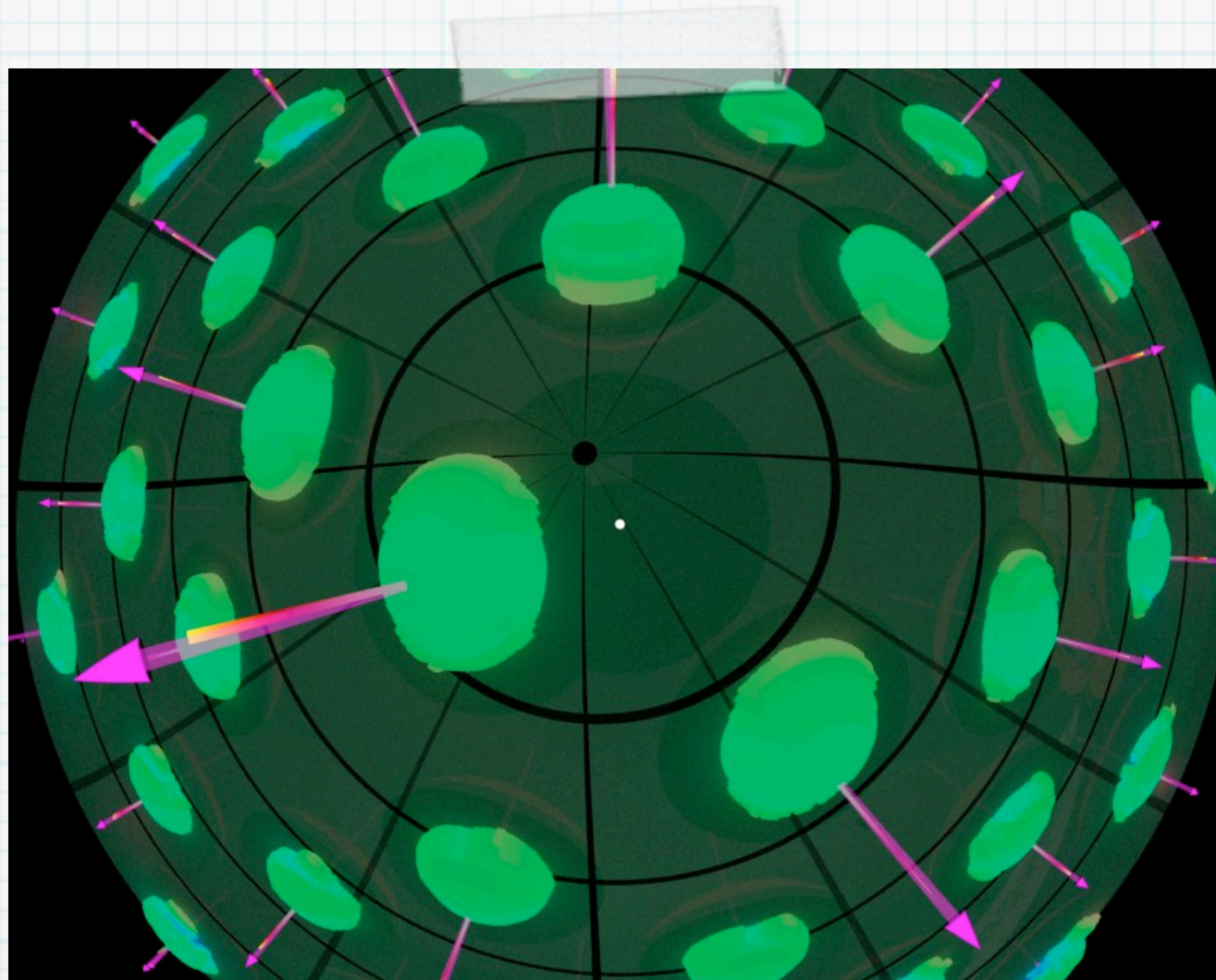
Actual Shade



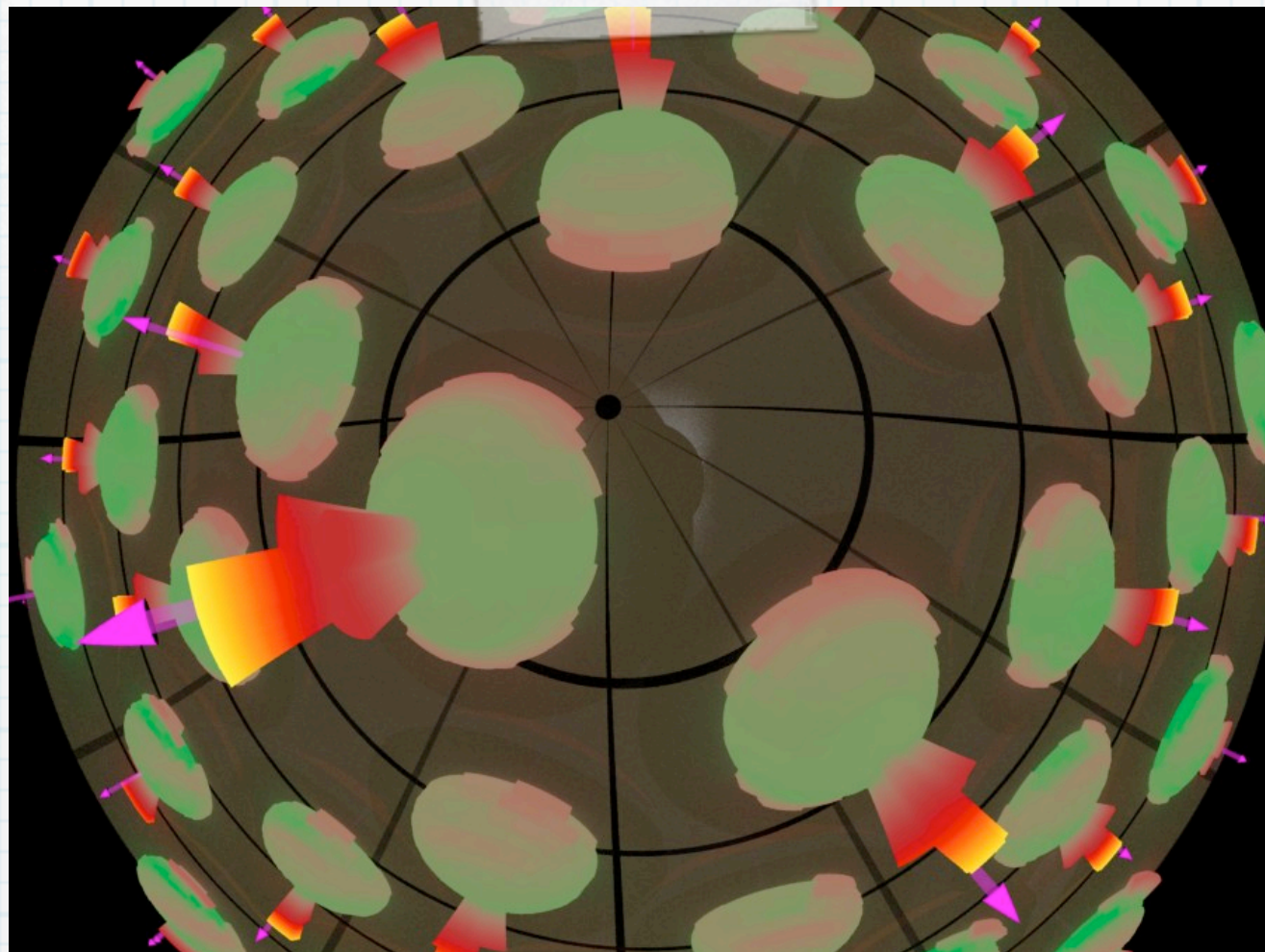
Model Interior Side



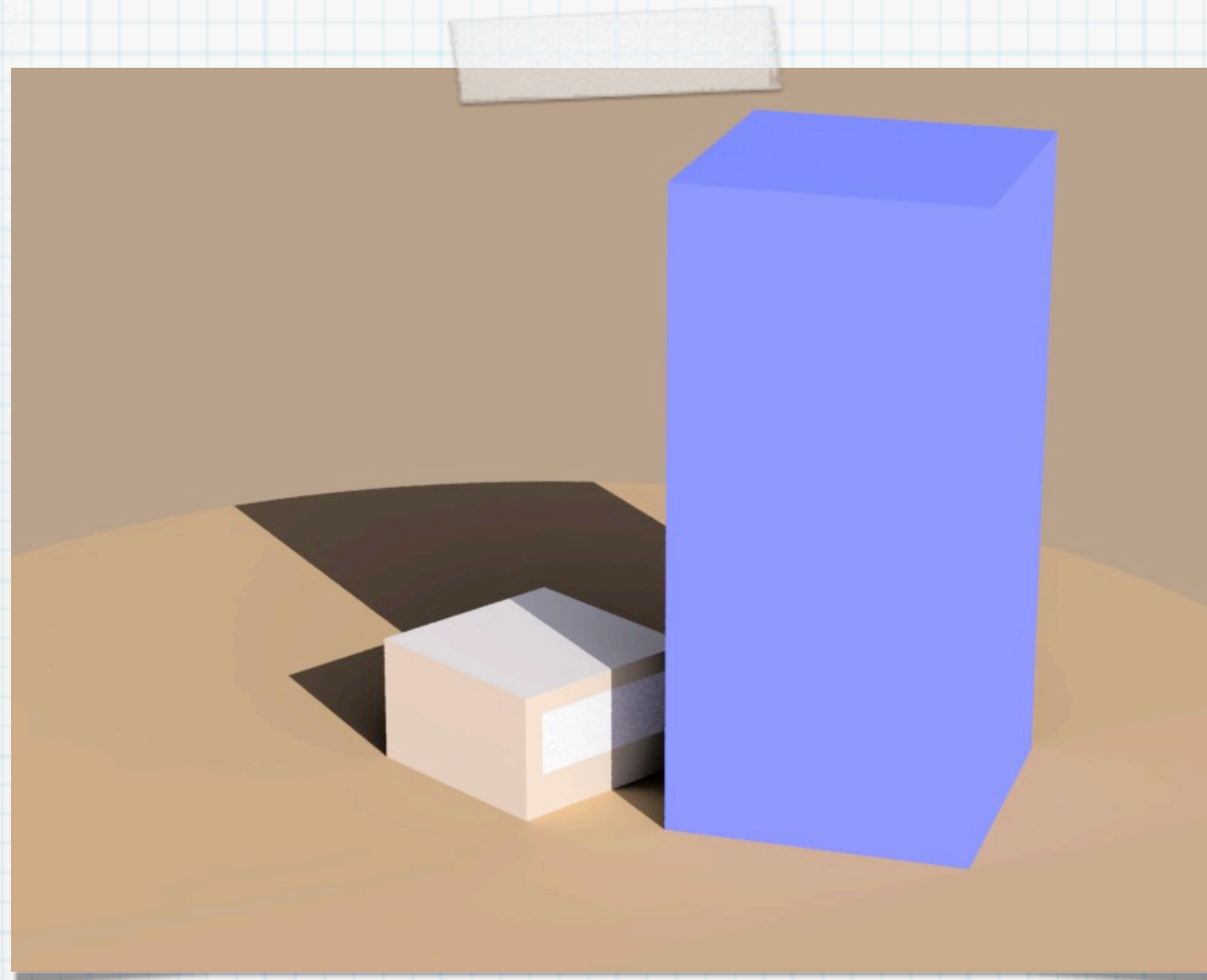
Actual Interior Side



Tensor Tree XML

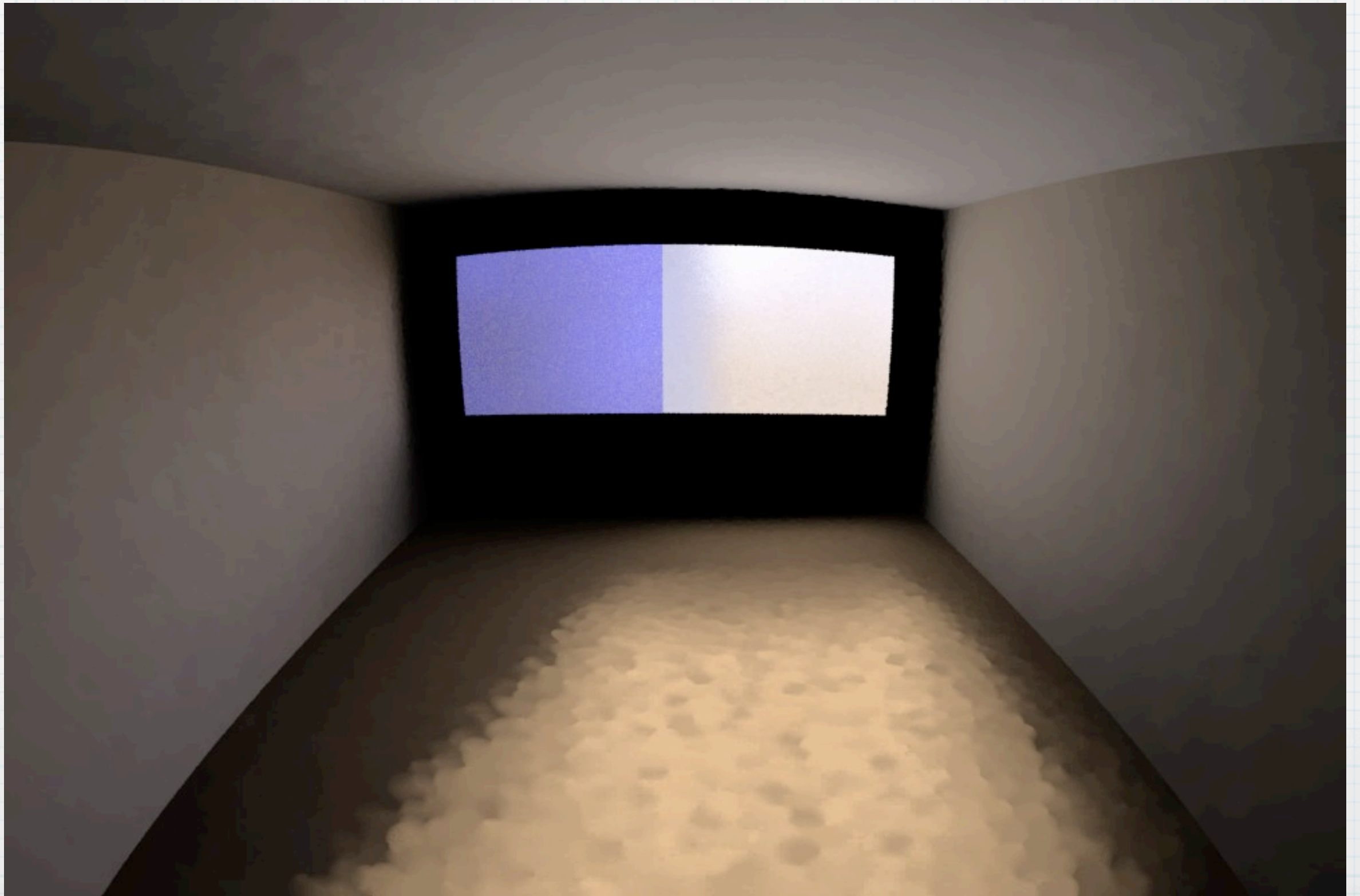


Klews XML

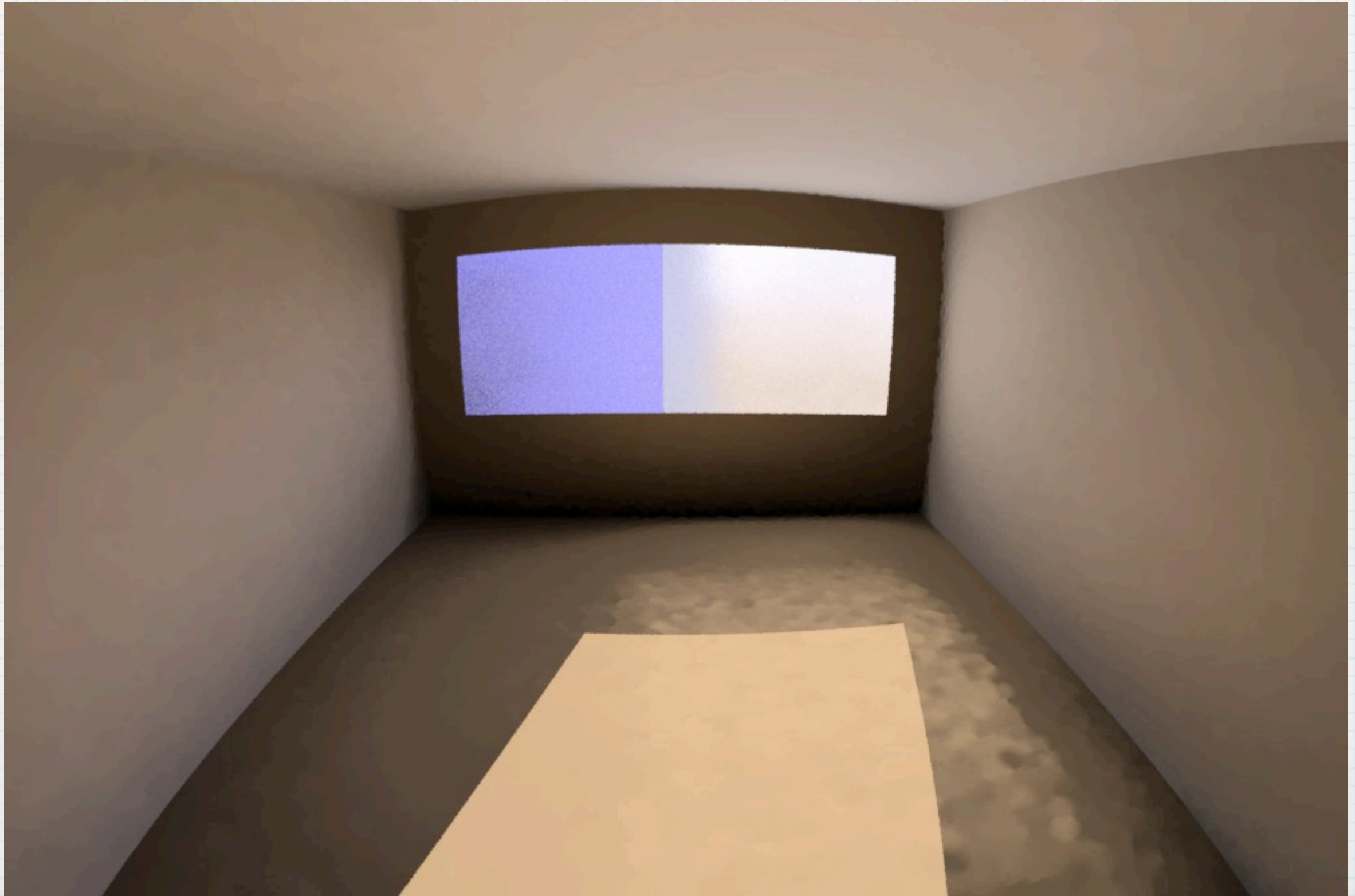


Office Model

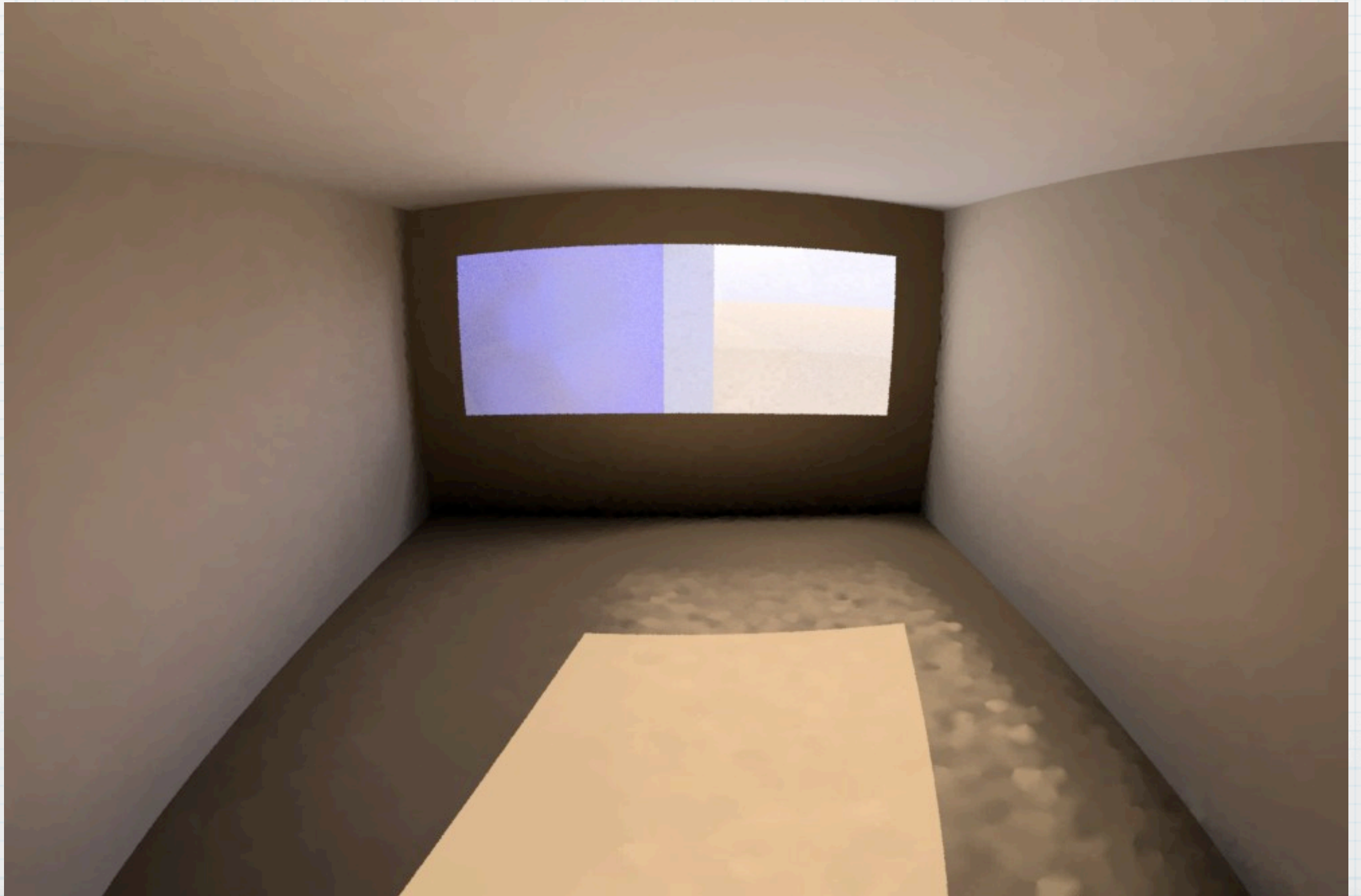
Old Interior Rendering



Light Source Fix



Window View Fix



Official 5.1 Release

- * Last official release was 2 years ago
- * New release includes significant improvements & bug fixes
- * Reasonably stable point in development