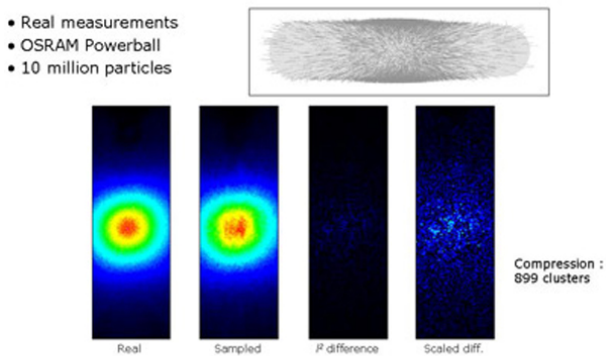


Compression and Importance Sampling of Near-Field Light Sources

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This paper presents a method for compressing measured datasets of the near-field emission of physical light sources (represented by raysets). We create a mesh on the bounding surface of the light source that stores illumination information. The mesh is augmented with information about directional distribution and energy density. We have developed a new approach to smoothly generate random samples on the illumination distribution represented by the mesh, and to efficiently handle importance sampling of points and directions. We will show that our representation can compress a 10 million particle rayset into a

mesh of a few hundred triangles. We also show that the error of this representation is low, even for very close objects.