Sampling

CPSC 414

The diagram shows the loss of detail between an original image and a rendered image, illustrating the concept of sampling.

Disintegrating textures

A continuous-time signal can be completely recovered from its samples if the sampling rate is greater than twice the maximum frequency present in the signal.
Point sampling

Unweighted area sampling

The view in the frequency domain

Textures can be pre-filtered (i.e., filtered before sampling)

Post-filtering (regularly-sampled grid)

Post-filtering (stochastic sampling)

Importance sampling

Equal distribution, unequal weights

Equal distribution, equal weights