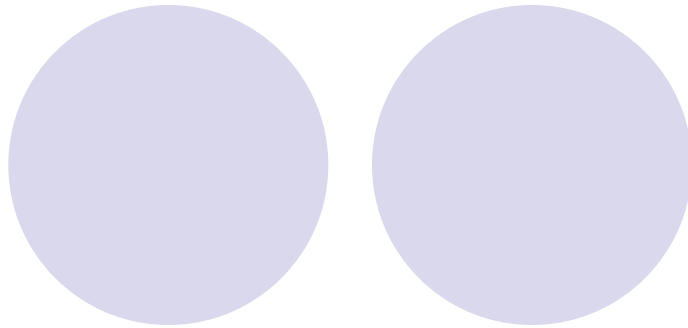


Volume Scattering Function and Particle Size Distribution



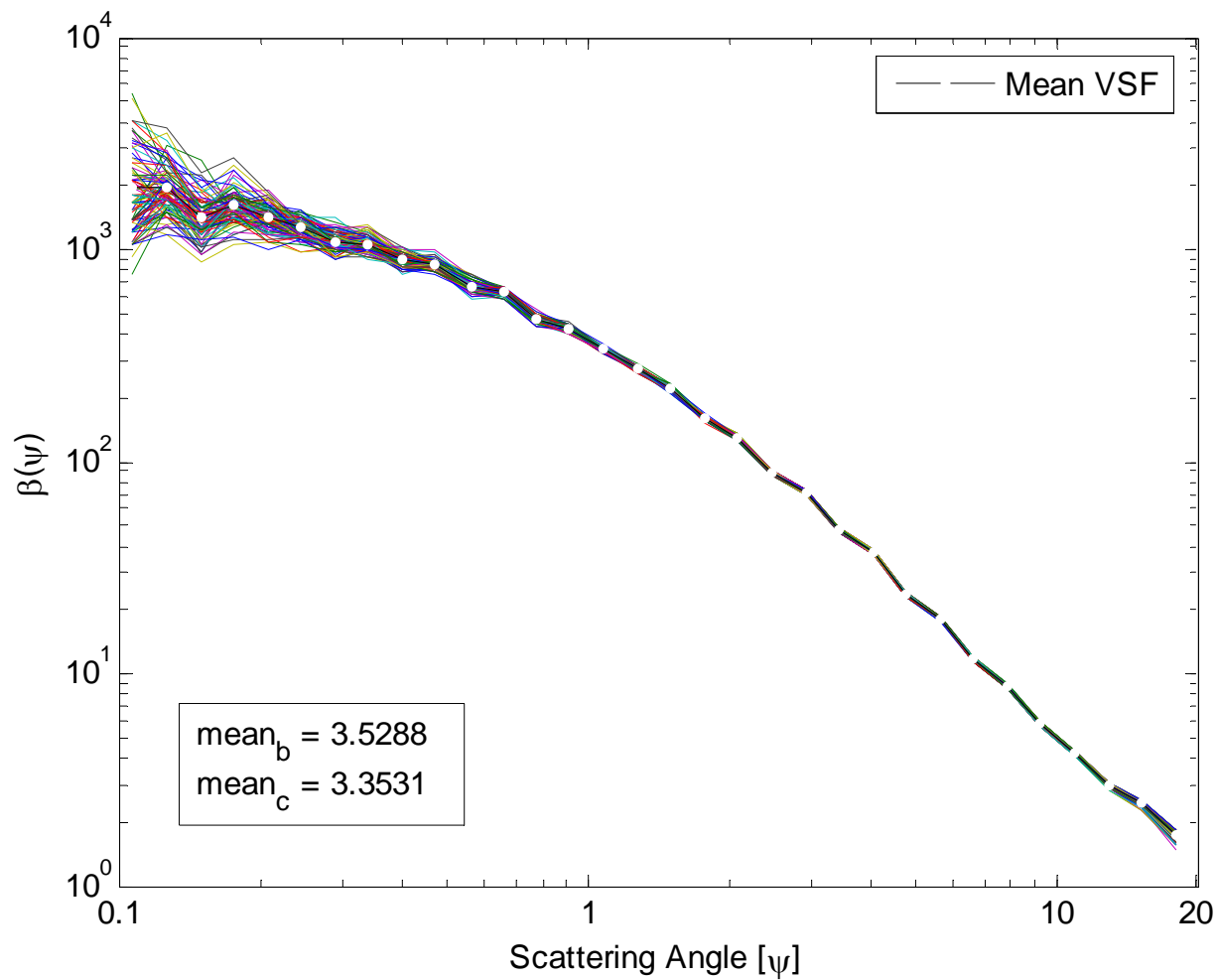
Wilhelmina R. Clavano
30 July 2004
Darling Marine Center



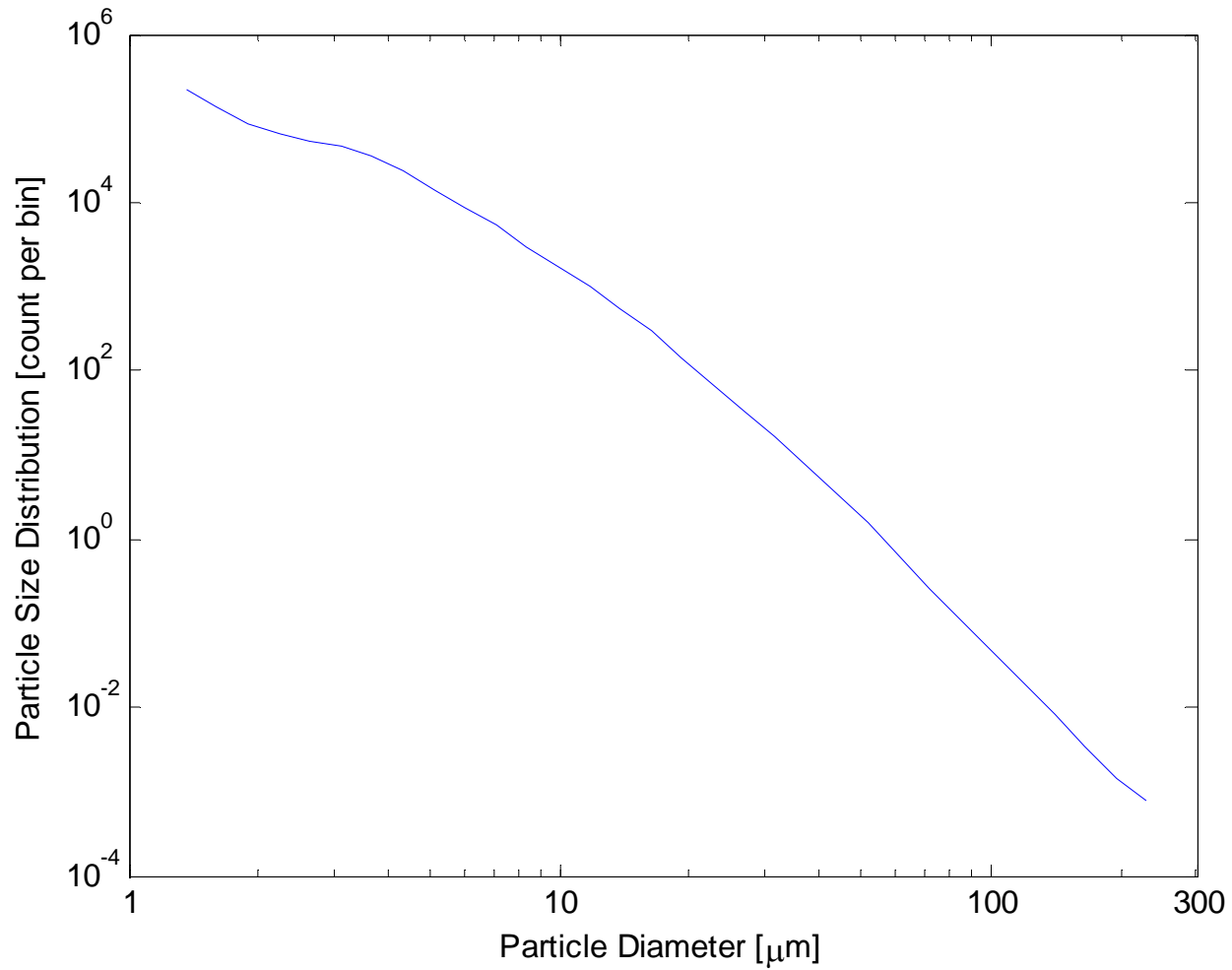
Methodology

- 06 July 2004, Damariscotta River estuary
- Coulter counter data triplicate
- LISST-100 measurement triplicate
- 30 random sets generated for each with the same statistics as the original triplicates
- “Weighted” bin centers for Coulter counter D

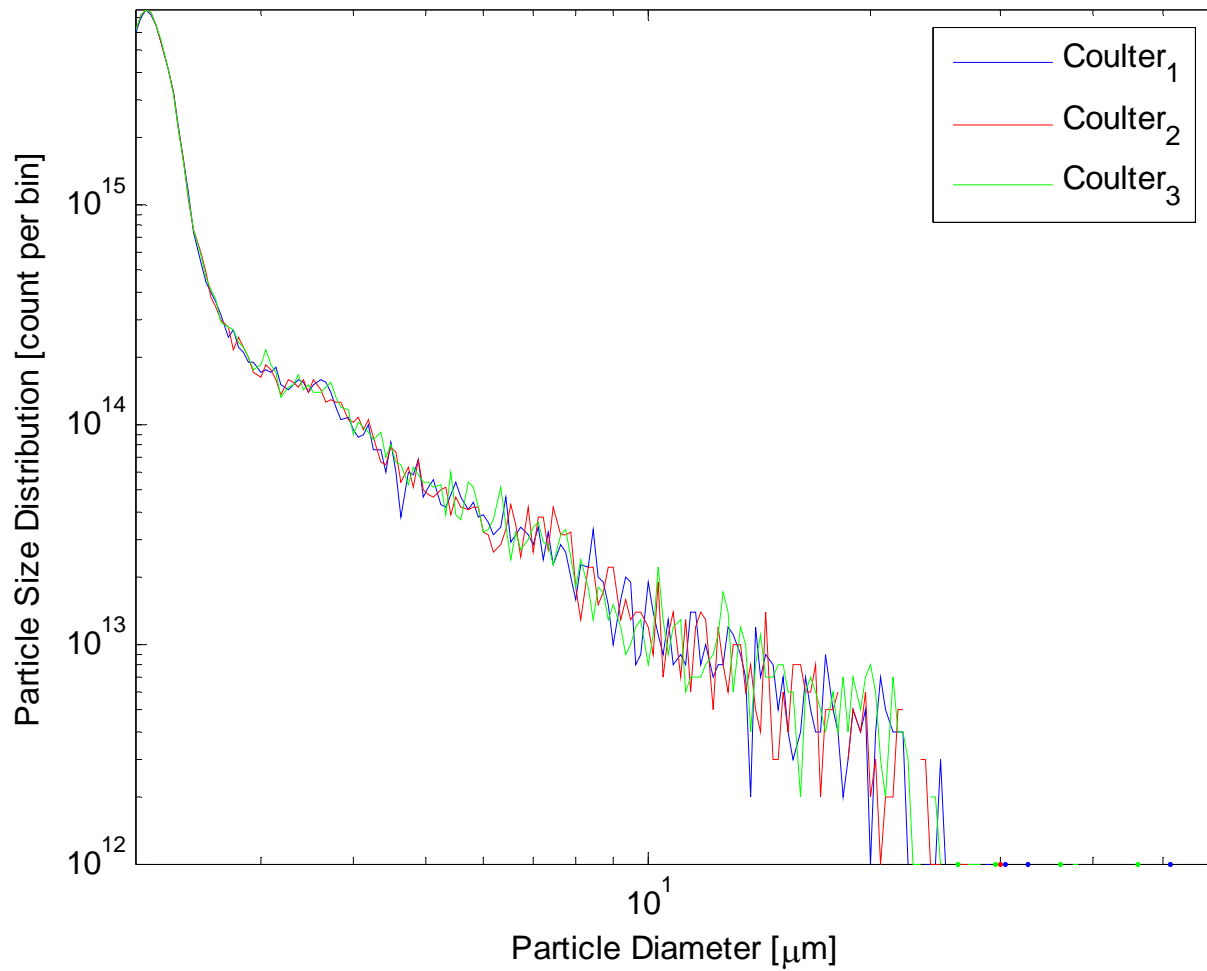
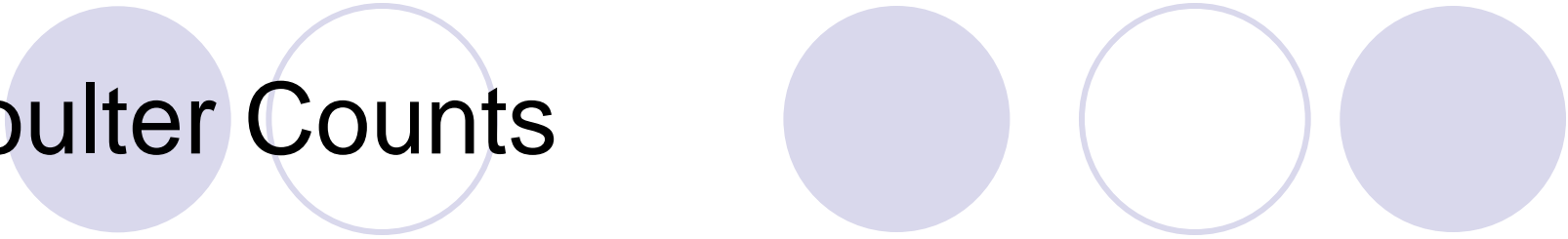
VSF from LISST-100



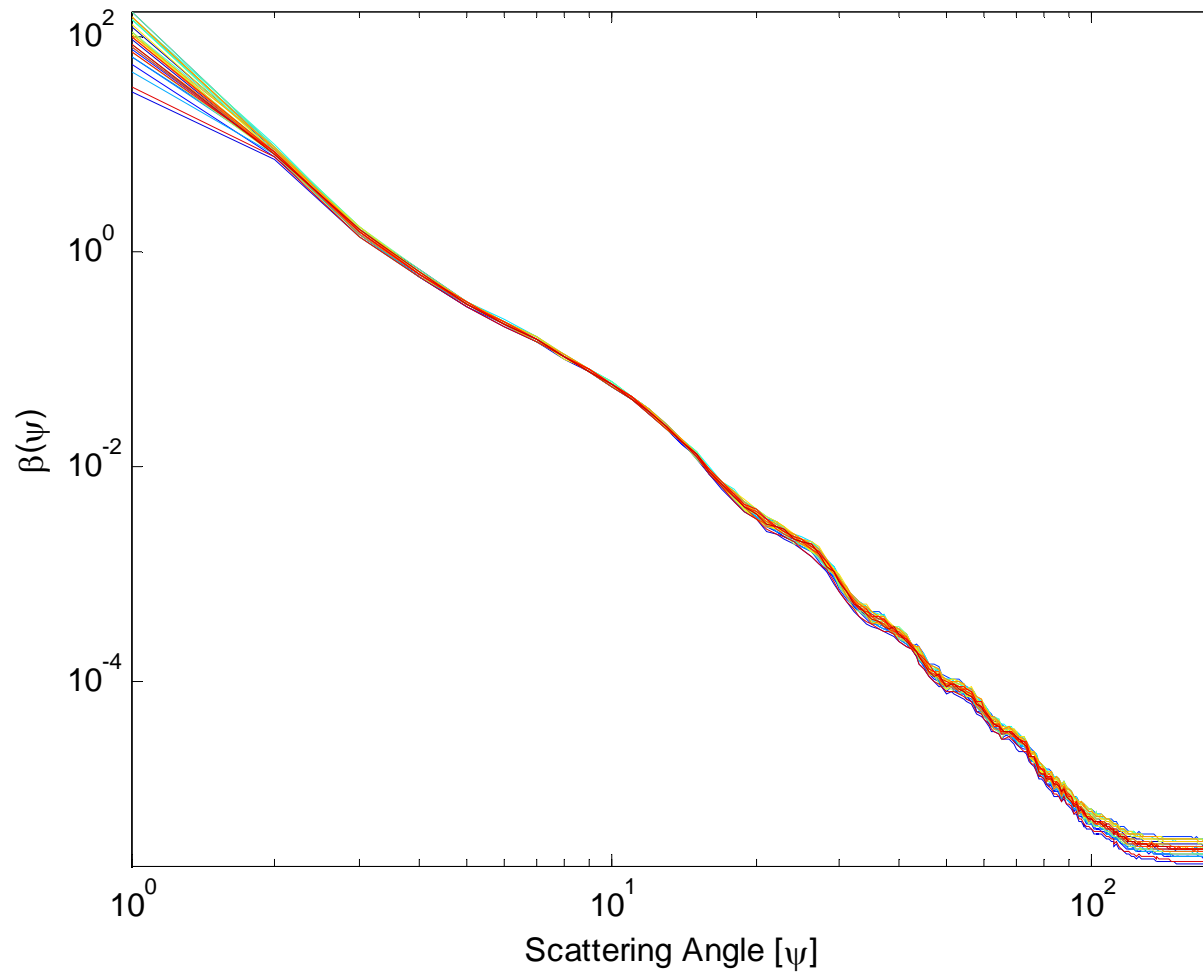
PSD derived from LISST



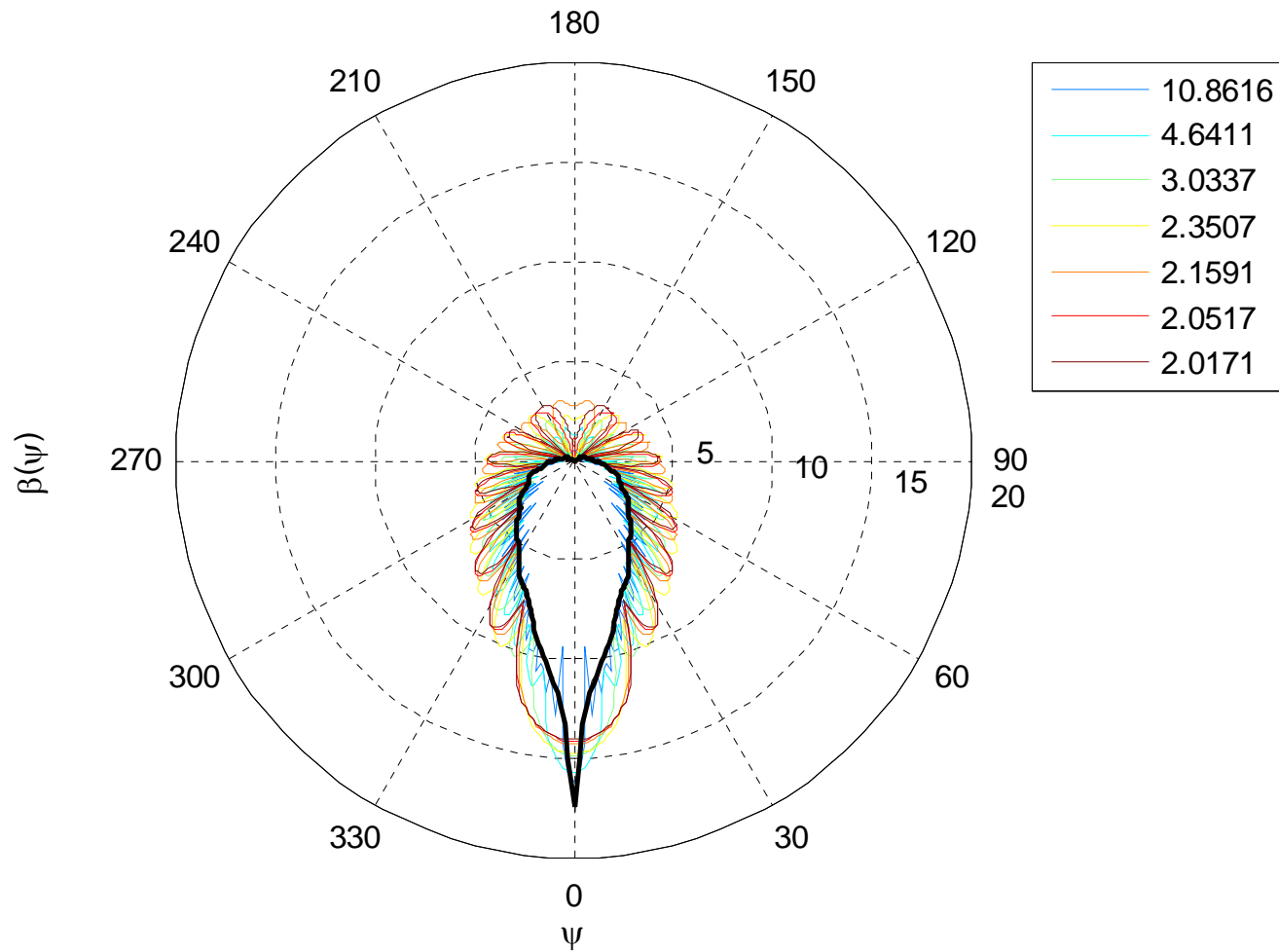
Coulter Counts



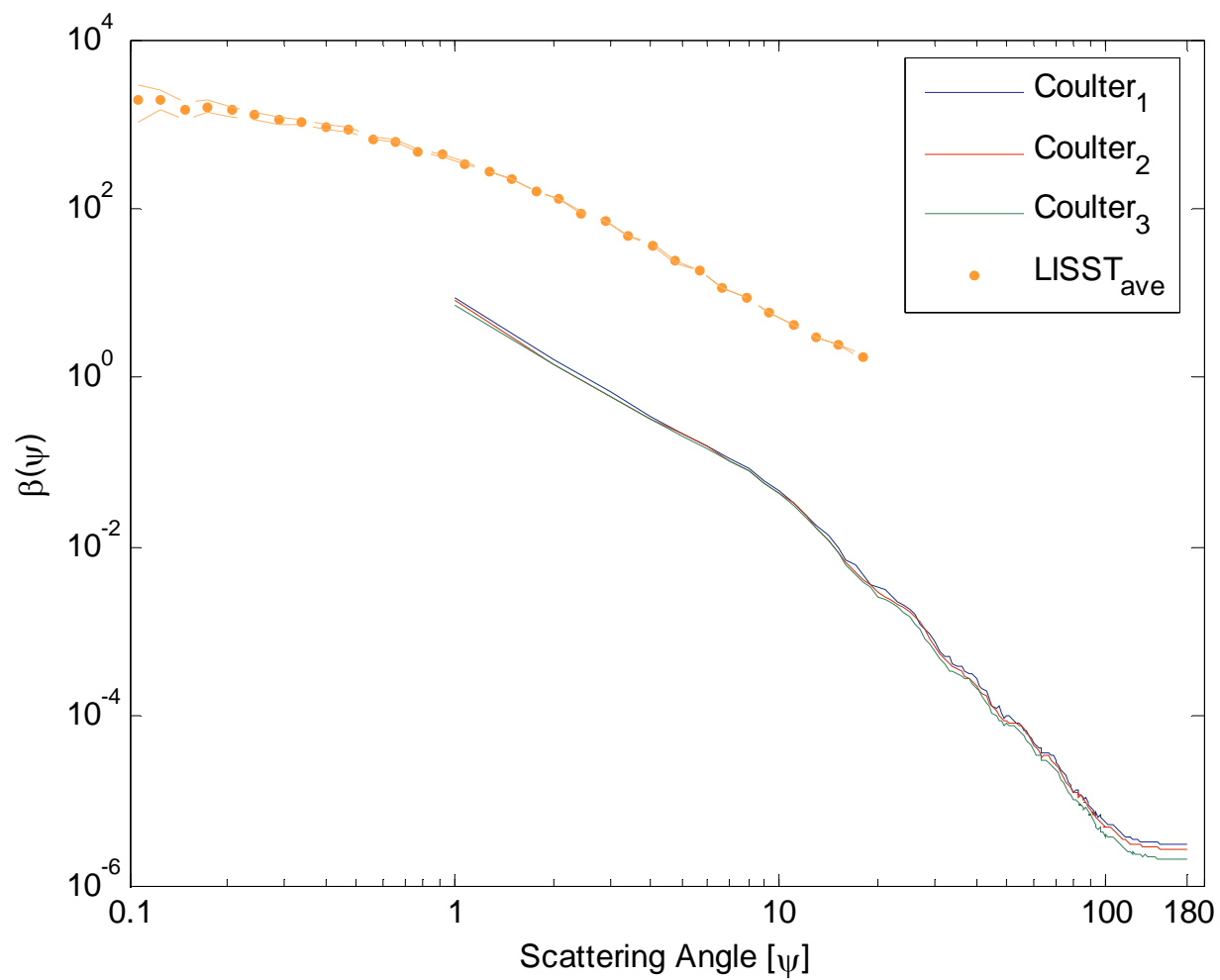
VSF from Coulter Counts



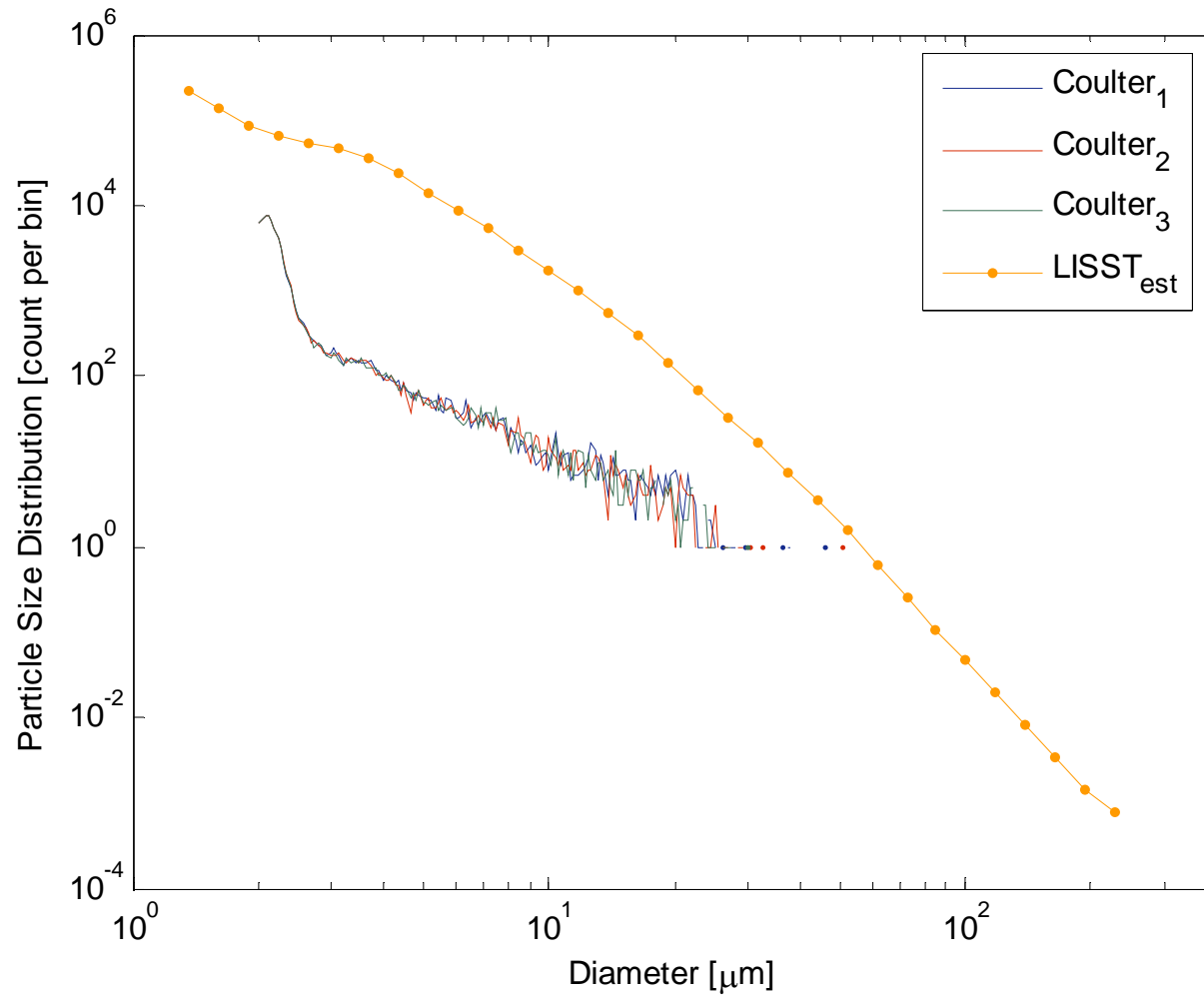
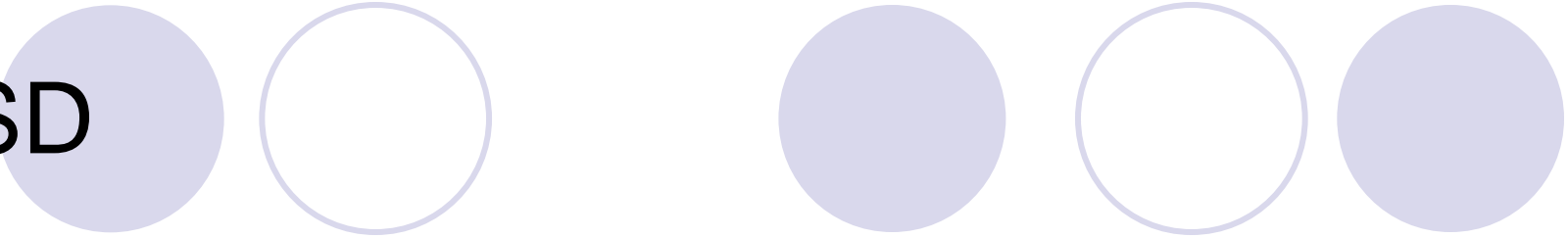
Same VSF (in polar, some D)



VSF



PSD





Limitations

- Mie theory calculations to match LISST angular resolution
- Particle size distribution derived from LISST dependent on optical properties of sample but less on physiology*
- Small variations in “input” VSF affect the PSD estimate significantly?
- Any spectral dependencies, polarization?

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- Emmanuel for ideas and the Mie code.
- Mary Ann for introducing me to *L. megalopa*.

