

## **When is the single-scattering approximation valid?**

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A standard approach to analysis of SAR data is linearization, i.e., the Born approximation. I will discuss work in progress on rigorous justification of the Born approximation by establishing Fréchet differentiability of the forward scattering map for suitable choices of norms in the spaces of scatterers and data. Our approach is applicable to SAR and other scattering problems. This is joint work with Margaret Cheney, Raluca Felea, Romina Gaburro and Cliff Nolan.