Approximate Lipschitz stability for phaseless inverse scattering with background information

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We prove approximate Lipschitz stability for monochromatic phaseless inverse scattering with background information in dimension d≥2. Moreover, these stability estimates are given in terms of non-overdetermined and incomplete data. Related results for reconstruction from phaseless Fourier transforms are also given. Our talk is based on the work [S], the prototypes of these results for the phased case were given in [N].

[N] Novikov, 2013 Approximate Lipschitz stability for non-overdetermined inverse scattering at fixed energy, J. Inverse Ill-Posed Problems, 21, 813-823.

S Sivkin, 2023 Approximate Lipschitz stability for phaseless inverse scattering with background information, Journal of Inverse and Ill-posed Problems, 31(3), 441-454.