Geometric Scattering Theory: From Particles to Fields

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Abstract. Scattering theory has been shaped by spectral and geometric approaches. Many among the main results in the last fifteen years or so depended on a combination of both. We shall review some of the contributions by Barry Simon (and others) to these methods, as well as some of their applications, such as to the quantum mechanical N-body problem, or to Rayleigh and Compton scattering. Some open problems will be mentioned, too.