HOLOMORPHIC REPRESENTATIONS OF SL(2,ℝ) AND QUANTUM SCATTERING THEORY

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1.   Quantum Scattering

The notation that we use will be essentially that of Reed and Simon
[1]. The Hamiltonian operator that describes a system of N particles
that interact via two-body potentials is

$$H = H_0 + V$$

In the centre of mass coordinate system,

$$H_0 = - \sum_{j=1}^{N} \Delta_j/2m_j + \Delta_{c.m.}/2M_{c.m.}$$