J-Matrix Analysis of Resonant States in the Shell Model: Charged Particles

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The new method for calculating energies and widths of resonances based on analysis of dependence of eigenenergies E_λ obtained in variational calculations with oscillator basis on the oscillator basis spacing $\hbar\Omega$ is extended to processes with charged particle scattering. The approach is applied to calculations of resonances in $p\alpha$ scattering using the no-core shell model results for ^{5}Li nucleus obtained with JISP16 interaction.