# Suggestions

1. Separability approximation, Barbanis Hamiltonian and helium excited states.

2. Branch points: their positions (as roots of $\left(E_A(\delta)-E_B(\delta)\right)^2$ and a pattern in a complex plane. $1/D^{1/2}$-expansion for branch points.

3. Prototype Hamiltonian for 2:1 Fermi resonance: $H=\begin{pmatrix} H_{11} & H_{12} \\ H_{21} & H_{22} \end{pmatrix}$, where $H_{11}=\frac{3}{2}\omega_1+\frac{1}{2}\omega_2$, $H_{22}=\frac{1}{2}\omega_1+\frac{5}{2}\omega_2$, $H_{11}=H_{21}=\frac{\lambda}{2\omega_1^{1/2}\omega_2}$ -- detailed understanding the convergence of linear Pade, quadratic, and other algebraic approximants using very high-order calculations.

4. Improving Borel summation by incorporation of the positions of Borel singularities using Borel - Darboux approximants $A(\delta)F(\delta)+B(\delta)(\delta-\delta_0)^{1/2}+C(\delta)=0$.

5. Spectrum of the diamagnetic hydrogen atom for unphysical $D=-2,-4,-6,\ldots$: exact solutions.