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On the analytic properties of the Jost function

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Abstract content
 (Max 300 words)

Recently, was developed a new theory of the Jost function, within which it was split in two terms involving single-valued analytic functions of the energy, and factors responsible for the existence of the branching points. For the single-valued parts of the Jost function, a procedure for the power-series expansion around an arbitrary point on the energy plane was suggested. However, this theory lacks a rigorous proof that these parts are entire functions of the energy. It also gives an intuitive (not rigorous) derivation of the domain where they are entire. In the present study, we fill in this gap by using the Poincaré's theorem of the theory of differential equations.

Apply to be
 consider for a student
 award (Yes / No)?

yes

Level for award
(Hons, MSc,
 PhD)?

MSc

Main supervisor (name and email)
and his / her institution

Prof. Pavel Selyshev
University of Pretoria

Would you like to
 submit a short paper
 for the Conference
 Proceedings (Yes / No)?

no

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