

Variations around the Lempert theorem: state of art and possible further developments

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Abstract: The standard Lempert theorem states that the holomorphically invariant functions coincide on convex or strongly linearly convex domains. In the talk it is presented how the theorem extends to other classes of domains and shows possible future development and limitations. The Lempert theorem may be also seen as the very special solution of the two point Nevanlinna-Pick problem. We also present how in the case of very special domains a solution of the three point Nevanlinna-Pick problem looks similarly to the statement of the Lempert theorem.