

# On Singularity of Critical Points of Definitisable Operators

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One of the most important legacy of Heinz Langer in mathematics is the spectral theory of selfadjoint definitisable operators in Krein spaces which started with his Habilitationsschrift in 1965 and continues to our days to be one of the most important achievements and tools in operator theory on indefinite inner product spaces. The behaviour of the spectral function in the neighbourhood of critical points is one of the technical thing that is mostly challenging and there are many attempts to characterise it by different analytical methods. We focus on discussing how intuition can be mislead in understanding the singularity and to what kind of mathematical problems it is related to. Along the way, we point out certain mathematical facts that point out the extraordinary talent of Heinz Langer to trigger important mathematical problems and new perspectives.