

ON ISOSPECTRAL PARTNERS
FOR THE \mathcal{PT} -SYMMETRIC
COMPLEX POTENTIALS

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S u m m a r y

We have discussed the Darboux method to derive isospectral partners of a complex \mathcal{PT} -invariant potential $V(x) = -V_1 \frac{q_c}{q_0} \operatorname{sech}_{q_c}^2 \lambda x + V_2 \frac{q_c}{q_0} \operatorname{cosech}_{q_c}^2 \lambda x$. We have constructed the Pöschl–Teller potential which gives rise to the real energy spectrum. The supersymmetric partner potential has the same energy including the zero-energy state with the emphasis on a particular type.