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$K_0^*(800)$ as a companion pole of $K_0^*(1430)$

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We study the broad light scalar kaonic resonance $K_0^*(800)$ as a dynamically generated state. Namely, we show that this resonance emerges when investigating the heavier quark-antiquark scalar state $K_0^*(1430)$ dressed by quantum fluctuations with one kaon and one pion circulating in the loops. We analyse the spectral function in the whole kaonic sector up to 1.8 GeV and determine the position of the poles on the complex plane: $K_0^*(1430)$ corresponds to a standard ‘seed’ state, while $K_0^*(800)$ corresponds to a ‘companion’ additional pole.

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