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## Goldstone-type pseudoscalar mesons: instantaneous Bethe–Salpeter models

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Within QCD, the light pseudoscalar mesons assume a twofold role: they may be described as quark–antiquark bound states but also have to be interpreted as the (almost) massless (pseudo) Goldstone bosons of the spontaneously broken chiral symmetries of QCD. The application of suitably adapted inversion techniques enables us to construct exact bound-state solutions to the Bethe–Salpeter equation for massless pseudoscalar mesons, in the form of rigorous (and, under particularly favourable circumstances, even analytic) relationships between the underlying interactions and the resulting Bethe–Salpeter solutions. Needless to say, this procedure is not confined to the Salpeter equation but, with little more effort, may be carried over to more general three-dimensional reductions of the Bethe–Salpeter formalism.

### Summary

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