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## Composite bound state explanations for the 750 GeV diphoton excess at LHC

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We consider several phenomenological explanations for the recent 750 GeV two-photon excess reported by ATLAS and CMS. In the first proposal, we consider an explanation for the excess from a heavy composite axion, motivated as a solution to the strong CP problem. This can result as a condensate from a higher-colour representation of QCD quarks. Alternatively, we consider a bound state from two multiply charged, vector-like isospin singlet leptons as an explanation for the excess. Such states have been searched for by ATLAS and CMS. In both these proposals we consider photon fusion as the leading production process, and find that both models can satisfy the excess accordingly.

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