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Derivation and study of the Fermi-Majorana bi-resonant level model C.J. BOLECH, Rice University, A. IUCCI, University of Geneva — We review the mapping of the anisotropic two-channel Anderson impurity model to a Fermi-Majorana bi-resonant level model. The correspondence is rigorously proved by using bosonization and explicitly constructing the new fermionic fields and Klein factors in terms of the original ones. We also demonstrate that the fixed points associated to the solvable manifold of the new model are renormalization-group stable and generic, and therefore representative of the physics of the original isotropic model. The simplicity of the mapped model allows for the computation of the full set of thermodynamic quantities as well as the identification of the different physical energy scales. In the absence of external fields the impurity physics is of non-Fermi liquid type. As expected, an arbitrarily small external field breaks some of the symmetries and introduces an extra energy scale below which the system flows to a local Fermi-liquid fixed point.

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