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Ten-fold way of topological Josephson effects in superconductors YUAN-MING LU, The Ohio State University, FAN ZHANG, University of Texas at Dallas — We obtain the ten-fold way classification of topological Josephson effects in superconductors using the K-theory. We show how the ten Altland-Zirnbauer symmetry classes can be realized in singlet or triplet superconductors with or without spin-orbit couplings and/or coexisting magnetic orders. In particular, we show that in three spatial dimensions there always exists a topological Josephson effect in each symmetry class, and that in one spatial dimension there are novel topological pumps mediated by paired or unpaired Majorana bound states.

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