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Quench dynamics of interacting Fermi systems: competition between pairing and magnetization MEHRTASH BABADI, Physics Department, Harvard University, DAVID PEKKER, RAJDEEP SENSARMA, ANTOINE GEORGES, EUGENE DEMLER — We study the linearized dynamics of a two-component ultra cold Fermi gas which is rapidly quenched to either the repulsive or the attractive side of a Feshbach resonance. On the attractive side, we investigate pairing instability towards BCS and FFLO-like states as a function of temperature and population imbalance. On the repulsive side, we investigate the competition between pairing into Feshbach molecules and the Stoner instability. In all cases, we evaluate the growth rate of unstable modes and predict the typical length-scale of textures to be formed.

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