Spectral conditions of k-factors in regular graphs

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In 1985, Bollobás, Saito and Wormald characterized all triples (t, d, k) such that every *t*-edge-connected *d*-regular graph has a *k*-factor. It is interesting to ask when a *t*-edge-connected *d*-regular graph has a *k*-factor, if the triple (t, d, k) does not satisfy the characterization. In this talk, a solution from a spectral aspect is introduced.