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**Instability of Singlet Superconductivity with Respect to the Appearance of a Triplet Component in a Vortex Phase.** ANDREI LEBED, OMJYOTI DUTTA, Dept. of Physics, University of Arizona — We show [1] that a vortex phase in a singlet d(s)-wave superconductor is absolutely unstable with respect to a generation of a triplet component of a superconducting order parameter. The triplet component, which appears for both attractive and repulsive interactions in a triplet channel, is shown to break three important symmetries of an internal superconducting order parameter: spin-rotational, parity [1], and time-reversal [2] ones. As a result, Cooper pairs are characterized by non-zero angular momenta [2] and non-zero spins [1], polarized in a plane, perpendicular to the external magnetic field. The above mentioned effects are expected to be of the order of unity in almost all modern superconductors such as MgB<sub>2</sub>, high-T<sub>c</sub>, organic, and some others. [1] A.G. Lebed, Phys. Rev. Lett. **96**, 037002 (2006). [2] Omjyoti Dutta and A.G. Lebed, Nature, submitted (2006).

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