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**Multiple nodeless superconducting gaps in noncentrosymmetric superconductor $PbTaSe_2$ with topological bulk nodal lines** MINXIANG WANG, YANG XU, LANPO HE, JUN ZHANG, XIAOCHEN HONG, PENGLIN CAI, ZIBO WANG, JINKUI DONG, SHIYAN LI, Fudan Univ — Low-temperature thermal conductivity measurements were performed on single crystal of $PbTaSe_2$, a noncentrosymmetric superconductor with topological bulk nodal lines in its electronic band structure. It is found that the residual linear term $\kappa_0/T$ is negligible in zero magnetic field. Furthermore, the field dependence of $\kappa_0/T$ exhibits a clear "$S$"-shape curve. These results suggest that $PbTaSe_2$ has multiple nodeless superconducting gaps. Therefore, the spin-triplet state with gap nodes does not play a significant role in this noncentrosymmetric superconductor with strong spin-orbital coupling. The fully gapped superconducting state also meets the requirement of a topological superconductor, if $PbTaSe_2$ is indeed the case. **Reference: M. X. Wang** *et al.*, **Phys. Rev. B 93, 020503(R) (2016)**

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