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Gravitational wave triggered searches for failed supernovae JAMES ANNIS, Fermilab, DARK ENERGY SURVEY COLLABORATION — Stellar core collapses occur to all stars of sufficiently high mass and often result in supernovae. A small fraction of supergiant stars, however, are thought to collapse directly into black holes without producing supernovae. A survey of such "failed" supernovae would require monitoring millions of supergiants for several years. That is very challenging even for current surveys. With the start of the Advanced LIGO science run, we investigate the possibility of detecting failed supernovae by looking for missing supergiants associated with gravitational wave triggers. We use the Dark Energy Camera (DECam). Our project is a joint effort between the community and the Dark Energy Survey (DES) collaboration. In this talk we report on our ongoing efforts and discuss prospects for future searches.

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