

ABSTRACT

A SEARCH FOR EXTRASOLAR PLANETS USING ECHOES PRODUCED IN FLARE EVENTS

A detection technique for searching for extrasolar planets using stellar flare events is explored, including a discussion of potential benefits, potential problems, and limitations of the method. The detection technique analyzes the observed time versus intensity profile of a star's energetic flare to determine possible existence of a nearby planet. When measuring the pulse of light produced by a flare, the detection of an echo may indicate the presence of a nearby reflective surface. The flare, acting much like the pulse in a radar system, would give information about the location and relative size of the planet. This method of detection has the potential to give science a new tool with which to further humankind's understanding of planetary systems.

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