

Abstract Submitted
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The Young Solar Analogs Project¹ RYAN LAMBERT, RICHARD GRAY, Appalachian State University — The ultimate goal of the Young Solar Analogs Project is to give insight into the conditions in the early solar system when life was first forming on the earth and to assess the challenges the young, active sun presented to that early life. To achieve this, we have been monitoring since 2007 the stellar activity of 31 young solar-type stars with ages between 0.3 and 1.5 Gyrs. Many of these stars exhibit star spot cycles like the sun, but in a few cases we are seeing evidence for a previously unknown type of star spot cycle. Some vary chaotically. We have detected the presence of differential rotation in several stars. We have also detected a number of powerful flares both photometrically and spectroscopically. Optical irradiance changes in these stars can be as high as 10% in a single year; such solar variability would have led to catastrophic climate change on the early earth.

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