

Abstract Submitted
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Characterization of Crystallization of Silicon on Alumina BRADY COX, Brigham Young University — My research at Brigham Young University this summer focused on studying the crystallization of silicon on alumina (Al_2O_3). I deposited amorphous silicon (α -Si) layers of two thicknesses onto various substrates in order to study how the silicon would crystallize at various temperatures and annealing times. The preliminary results indicate that α -Si does not crystallize at temperatures below 630°C when annealed for an hour on these substrates, but does crystallize at temperatures above 700°C when annealed for the same amount of time. There appear to be no noticeable differences in crystallization between substrates. At the temperatures at which crystallinity was observed, there appears to be no preferred orientation for crystal formation. Further research will focus on determining the lowest temperature(s) at which crystallization begins and studying the early stages of crystal formation at these temperatures.

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