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Jennifer Balakrishnan, Jennifer Berg, Alyson Deines, Yasemin Kara, Lily Khadjavi*
(lkhadjavi@lmu.edu), **Kristin Lauter** and **Victor Scharschkin**. *A computational approach to the ABC Conjecture*. Preliminary report.

The ABC Conjecture has a surprising number of implications and is viewed by some as a “holy grail” of number theory. While Shin Mochizuki’s announcement of a proof drew increased attention, as of 2015 the details of his work are still being verified. A construction proposed by Noam Elkies takes a computational approach, exploiting maps with prescribed ramification properties (Belyi maps) and the group structure of elliptic curves. For suitable curves, we can give lowest possible degree Belyi maps and consider an induced sequences of triples, of interest for the Conjecture. Following this approach points to opportunities (and challenges) for a computational attack on the ABC Conjecture. This talk will explain the approach and describe work in progress, joint with Victor Scharschkin and with a Sage working group, including Jennifer Balakrishnan, Jennifer Berg, Alyson Deines, Yasemin Kara, and Kristin Lauter. (Received September 22, 2015)