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## Creating a Novel Model for the Unique Binary Star delta Scorpii

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Disks of orbiting material are found everywhere in the universe: encircling black holes, in young planetary systems, and around our beloved planet Saturn. Disks are also found surrounding some of the hottest and most luminous stars in the universe: Be stars. These stars rotate so rapidly that gravity can barely hold them together, and are often gravitationally bound to companion stars to form binary systems. My research focuses on delta Scorpii, a binary system consisting of a Be star and a smaller secondary star. The secondary star's unique orbit brings it unusually close to the disk of the Be star. Using state-of-the-art simulations, I am studying how the structure of the disk is affected by the closest approach of the secondary star. My project will address the current gap in the literature regarding binary Be stars with close companions, and advance our understanding of orbiting disks throughout the universe.