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Magnetic Braking of Massive Stars: Observation and Theory RICHARD TOWNSEND, University of Wisconsin-Madison

Massive stars are not expected to harbor magnetic fields, owing to the absence of a sub-surface convection zone with which to drive a field-generating dynamo. Nevertheless, it is known that a small ($\sim 5\%$) subset of these stars possess kilogauss-strength, ordered, stable fields. These fields greatly enhance the loss of angular momentum in the stars' radiation-driven winds, to such an extent that direct measurement of changes in the rotation periods of individual objects becomes a possibility. The past few years have witnessed the first realizations of this possibility, with the discovery of braking in at least two magnetic massive stars. In this presentation I will present these discoveries, and explain the underlying observational techniques that enable us to measure tiny changes in rotation periods. I will also review the complementary recent progress made in understanding the theoretical principles behind magnetic braking of massive stars.