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Magnetic Field Assisted Assembly: Breaking the 50μm Barrier VIJAY KASISOMAYAJULA, DAVID CUNNINGHAM, ANTHONY FIORY, N.M. RAVINDRA, New Jersey Institute of Technology — Magnetic Field Assisted Assembly is used to facilitate heterogeneous device assembly on various substrates. The aim of this work is to illustrate techniques that help assemble devices of dimensions less than 50μm in any direction onto Silicon/GaAs wafers. Novel methods are developed to produce highly localized magnetic fields using microfabricated solenoids and preconditioned devices whose motion is controlled with nanometer precision. The efficiency of this directed assembly is discussed and comparison is made with existing directed and self assembly techniques.

Vijay Kasisomayajula
New Jersey Institute of Technology

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