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Fourier ptychographic microscopy using a computer-controlled hemispherical digital condenser MEZNH ALSUBAIE, Texas Tech Univ, APS, SANCHARI SEN, DARSHAN DESAI, AYRTON BERNUSSI, Texas Tech Univ, LUIS GRAVE DE PERALTA, Texas Tech Univ, APS — A computer-controlled hemispherical digital condenser is used in combination with an optical microscope for implementing Fourier plane imaging (FPIM) and Fourier ptychographic (FPM) microscopy techniques. Notable improvement in image resolution was obtained. We discuss some limitations of FPM, the relationship between FPM and FPIM, and the advantages and disadvantages of these two optical microscopy techniques.

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