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Squeeze flow with capillary effect in Nano Imprint Lithography (NIL) process BHARATH BABU NUNNA, SHIQIANG ZHUANG, EON SOO LEE[1], New Jersey Inst of Tech — In the Nano imprinting process, the resist forms the required nano structures upon the squeeze effect, between the polymer mold and substrate. Due to this squeeze effect the resist will experience the squeeze force, which leads the fluid (resist) to fill the cavity of the mold. But the fluid due to its natural phenomenon undergoes a capillary effect that contributes to the fluid movement. In this presentation the fluid dynamics of the resist in the cavity upon the squeeze force and capillary effect are examined in detail. The study of the resist flow in the nano imprint lithography (NIL) process helps to define the exact required squeeze force to obtain the enhanced quality of nano structures.

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