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高聚物薄膜在旋节去湿中的动力学稳定性

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Dynamic Instability of Confined Thin Polymer Films in Spinodal Dewetting

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摘要 当高聚物薄膜以旋节类的方法从基底上去湿时，它的不稳定性由色散力和局部热应力控制，实验仿真结果表明：薄膜和基底之间存在相互作用时，热应力在薄膜不稳定的过程中起着很大的作用，弱滑移和强滑移条件下，模式波长随着薄膜的增厚而增大.

关键词: 薄膜   不稳定性   滑移   杨氏模量

Abstract: The thin polymer film instability in a general criterion is discussed.When the film is dewetted from the substrate in the spinodal,the instability is dominated by the dispersion force and the local thermal stress.It turns out that the thermal stress plays an important role when there is special interaction between the film and the substrate.The results show that the mode wavelength will grow as the film thickens in weak and strong slip.

Key words: film   instability   slip   Young&rsquo   s modulus

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