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**S. Estrada\*** ([sestrada@um.es](mailto:sestrada@um.es)), Departamento de Matematica Aplicada, Campus del Espinardo, 30100 Murcia, Murcia, Spain, and **Manuel Saorin**. *Locally finitely presented categories with no flat objects.*

If  $X$  is a quasi-compact and quasi-separated scheme, the category  $Qcoh(X)$  of quasi-coherent sheaves on  $X$  is locally finitely presented. Therefore categorical flat quasi-coherent sheaves in the sense of Stenström naturally arise. But there is also the standard definition of flatness in  $Qcoh(X)$  from the stalks. So it makes sense to wonder the relationship (if any) between these two notions. In the talk we show that there are plenty of locally finitely presented categories having no other categorical flats than the zero object. As particular instance, we show that  $Qcoh(\mathbf{P}^n(R))$  has no other categorical flat objects than zero, where  $R$  is any commutative ring. (Received August 20, 2012)