

Abstract Submitted  
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**Pressure-driven mass flow in solid  $4\text{He}$** <sup>1</sup> ANN SOPHIE C. RITTNER,  
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USA — We report on two experiments that explore pressure-driven flow in solid  
 $4\text{He}$ . In the first experiment, two pancake-shaped chambers are connected by a  
narrow slit. The pressure in one chamber is varied periodically at 2 mHz and we  
look for a superfluid pressure response in the second chamber. When the cell is filled  
with liquid, we observe a large pressure signal in the second chamber as expected for  
superfluid flow. In solid helium, no pressure response is detected outside the noise  
level. In a second experiment, we generate an oscillating pressure in a torsional  
oscillator by blocking an annulus. We expect the pressure difference to drive the  
supersolid component through a radial channel orthogonal to the rotational motion  
of the oscillator.

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