

Flexible intruder penetration in a dense granular medium

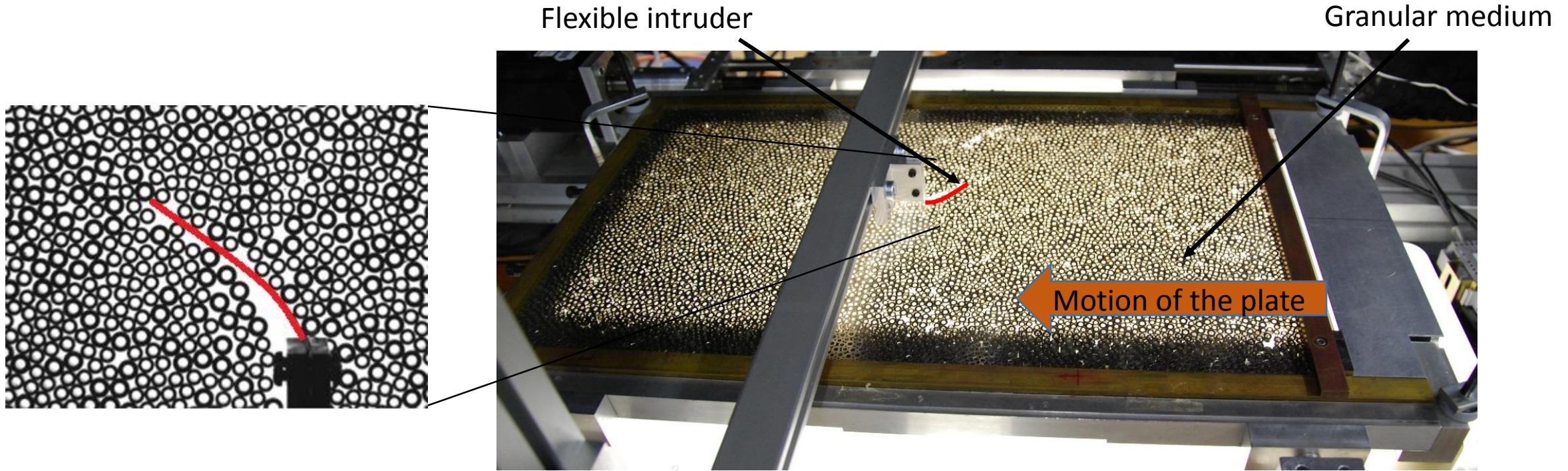



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Rencontres non linéaires, March 16th 2016

The experimental setup



- 2D bidisperse dense and disordered granular medium
 $d_1 = 4\text{mm}$ $d_2 = d = 5\text{mm}$ 
- Quasi-static regime $V = \frac{1}{6} d \cdot s^{-1}$

- Control parameters:
 - packing fraction: $80.9\% < \phi < 82.3\%$
 $\phi_c = 83.5\%$
 - Rigidity of the intruder: $4d < L < 10d$

Two behaviors for an experiment

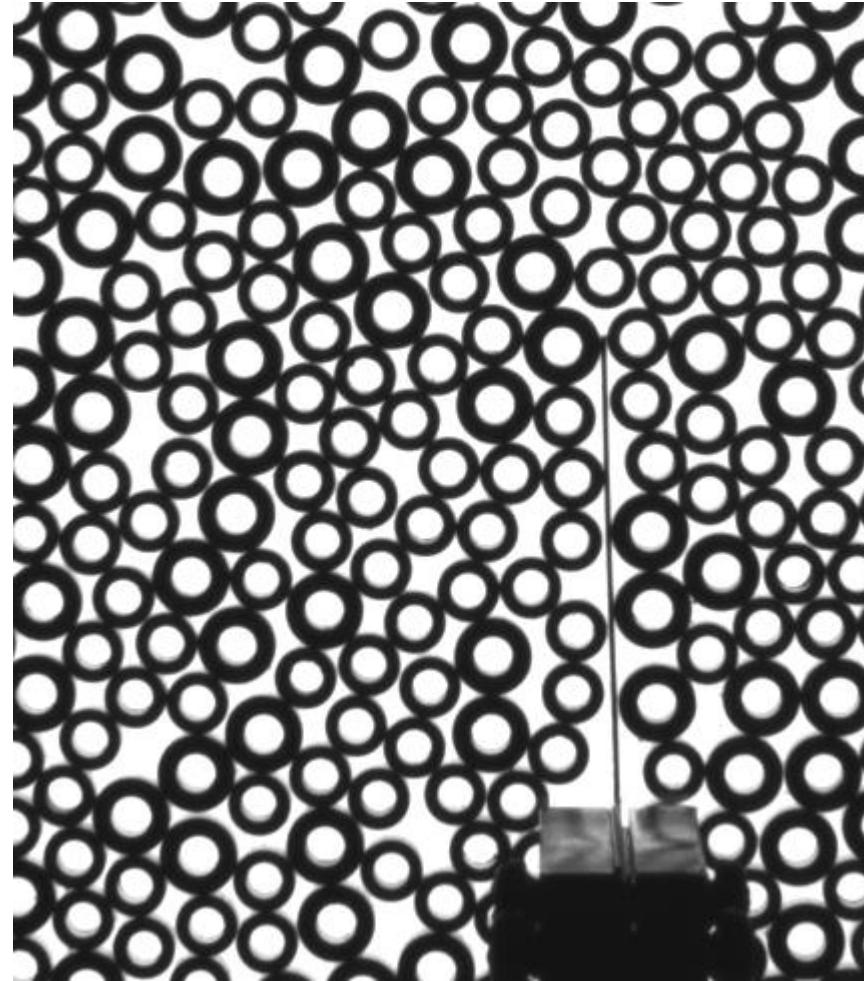
$L = 4d$

$\phi = 80,9\%$



$L = 6d$

$\phi = 80,9\%$



Two behaviors for an experiment

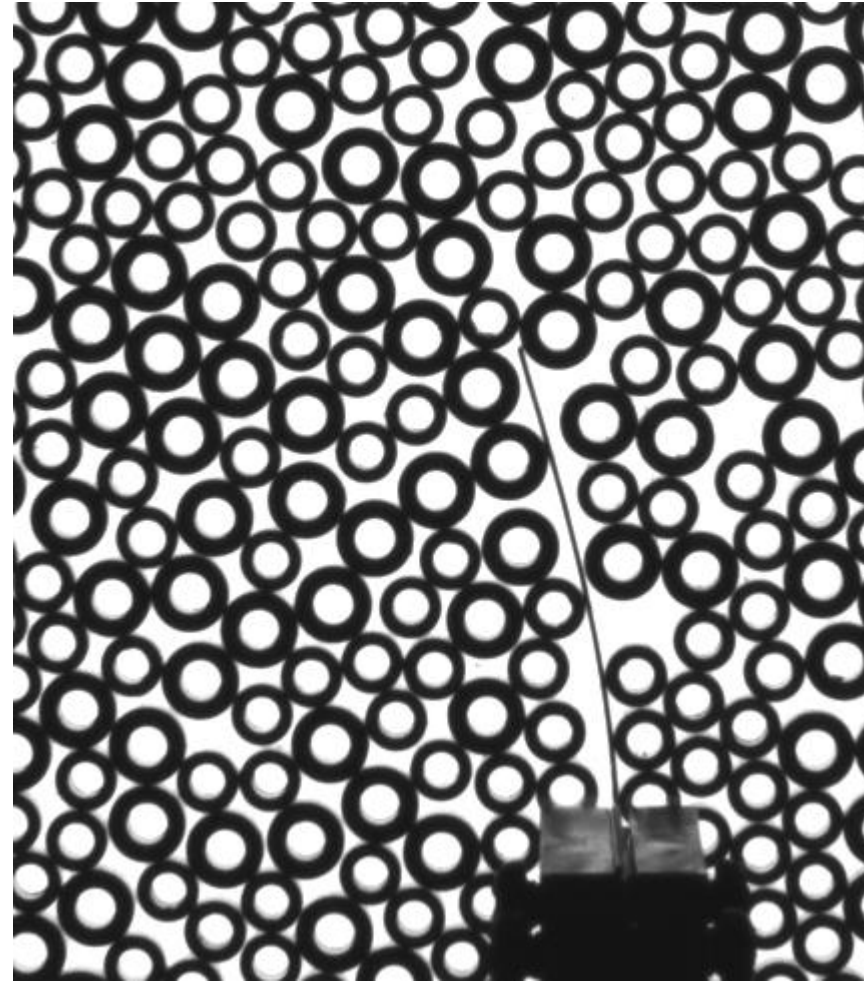
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Two behaviors for an experiment

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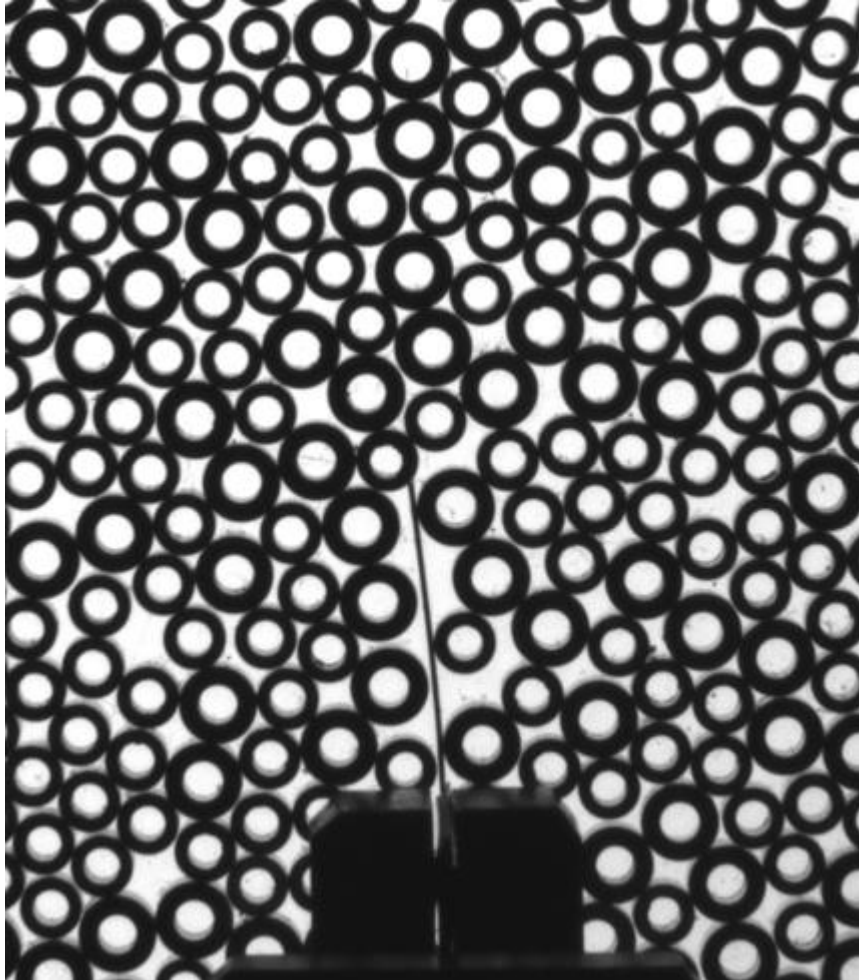
$\phi = 80,9\%$



Two behaviors for an experiment

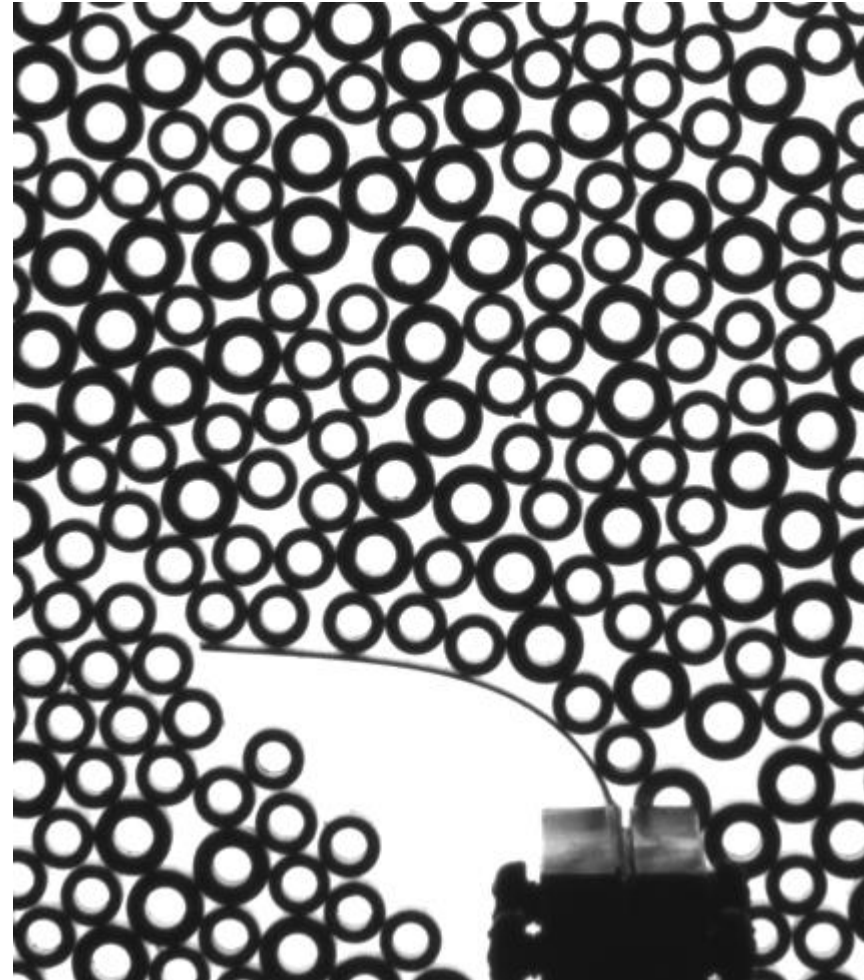
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$L = 6d$

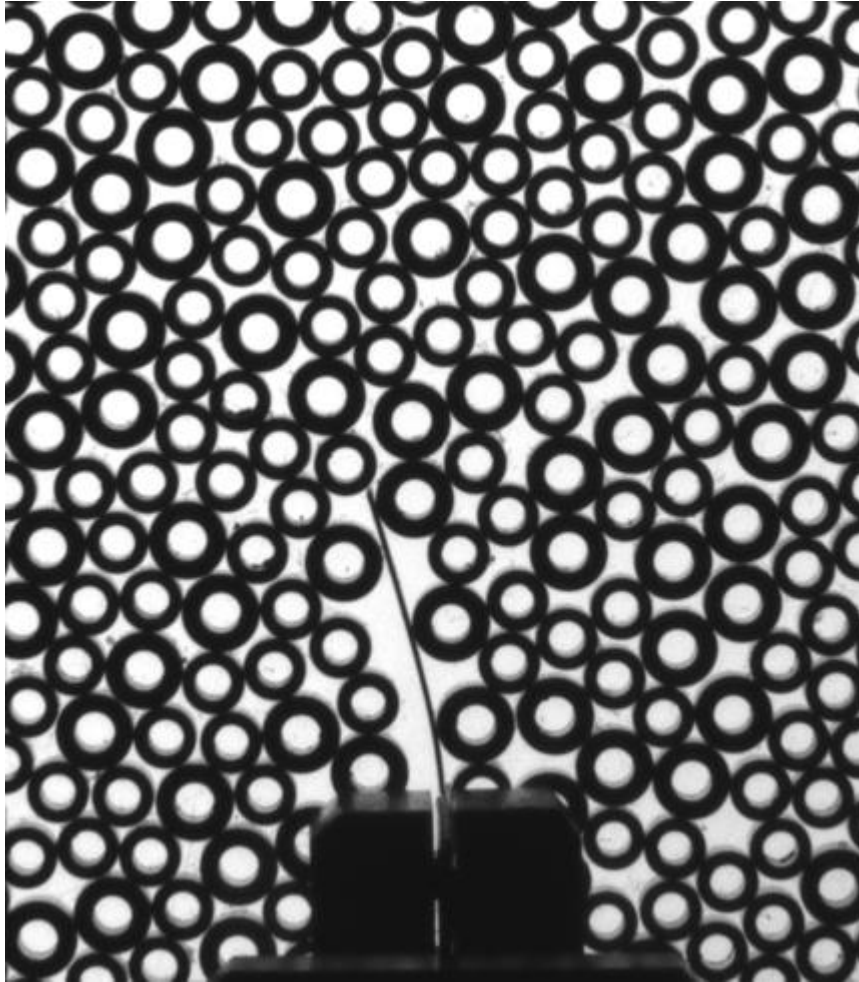
$\phi = 80,9\%$



Two behaviors for an experiment

$L = 4d$

$\phi = 80,9\%$



$L = 6d$

$\phi = 80,9\%$

