

Abstract Submitted
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Drop spreading and resorbtion on gel surfaces¹ MEHDI BANAHA²,
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MSC*, CNRS & Denis-Diderot-University of Paris — We have studied the dynam-
ics of liquid drops on agar gels, using a visualisation method which captures the
evolution of the free surface. A first remarkable observation is that drops of water
deposited on the surface do not spread, although the gel consists of up to 99.7%
water and as low as 0.3% agarose. Instead, the drop slowly de-wets and resorbs into
the gel which swells locally. If the deposited drop contains surfactants, the dynamics
is very different. A sharp circular swelling front develops and progressively invades
the whole surface. We study the propagation of this front as a function of surfac-
tant and agarose concentration, and compare its typical properties to similar fronts
appearing during mass swarming events of bacterial colonies under the same condi-
tions. The observations reveal the complex nature of gel surface physico-chemistry
and its aging, and may be related to recent friction measurements at gel interfaces.

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