Emile and Emile Reply: In the preceding Comment [1], Brasselet raised two issues regarding our recent Letter [2]. Based on a calculation using the electromagnetic tensor, he claimed that (i) the stress is always normal to the surface, and (ii) our model does not take into account the force balance at the air water interface. We think that in his calculation he neglected some terms and that the second point only results from a misreading of our Letter. This Reply aims to clarify these two points.

First, as stated by Brasselet, the force density is the divergence of the stress tensor, which is defined in Eq. (1) in his Comment. One has thus to calculate the flux of the electrostatic tensor through a surface limiting a small volume element $dV = dxdydz$ that crosses the interface. Here the z axis is normal to the interface, and the x axis is in the plane of incidence. However, in his calculation, the author gets only a nonzero result for the flux through surface elements $dS = dxdy$ parallel to the interface, inevitably leading to a force perpendicular to the interface. Let us calculate the flux through surface elements $dS = dydz$, for the diagonal element of the tensor. Since the forces in air are neglected, let us also restrict ourselves to the high index medium, i.e., water in our experimental setup. One has to take into account the incoming beam and the totally reflected beam. For a plane wave, even in the presence of the so-called Goos-Hänchen longitudinal shift δ [3], the two contributions cancel. For a Gaussian shaped laser beam in specular reflection; i.e., without any longitudinal shift, the contribution is negligible and is not due to reflection. However, for a Gaussian beam in total reflection, in the presence of a shift δ, a straightfoward development leads to a force that depends on δ and on the waist of the laser and which direction is along the x axis. Obviously there is a force that is not perpendicular to the interface and that is symmetric with regarded to the laser beam center. This force has been then considered in our Letter [2] to calculate the radius of curvature of the deformation.

Second, we agree with Brasselet in his Comment [1] when he writes that the electromagnetic, capillary, and hydrostatic stresses, as well as the optical power, as he noticed in his conclusion, should play a role in the deformation. We think that this is particularly true regarding the deformation depth. However, among the various parameters that characterize the deformation, we focused in [2] on the radius of curvature of the deformation only. What we claimed is that, based on experimental observations and supported by theoretical considerations, the radius of curvature of the deformation does not depend on either the fluid characteristics or the optical power. Finally, we roughly estimate the volume of the deformation in our experimental conditions to be of the order of 10^{-3} mm^3 which is too little to play a decisive role in transient dynamics as suggested in [1].

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