

Finally, we note that there are reports of the investigation of "bonded lubricants,"—liquids believed to be covalently attached to the solid substrate. Studies with perfluoroether polymers by Barlow, *et al.* (1987) suggest that spinoff is retarded and possibly arrested by some (unknown) degree of bonding. This raises the issue of whether there is, within a distance of one or two molecular diameters from a solid surface, any difference between a liquid which is bonded to the surface, and one which "simply" satisfies the traditional no-slip condition at the surface. Such questions suggest and will require further studies along the lines of those of Israelachvili cited above.

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Notation

H = dimensionless film thickness, m
 h = film thickness, m
 h_0 = initial film thickness, m
 N_{Re} = Reynolds number for the induced air flow
 R = disk radius, m
 t = time, s
 T_{rz} = shear stress at the air/liquid interface, N/m²
 V_r = radial velocity, m/s

Greek letters

β = wind-shear parameter, Eq. 5
 μ = liquid viscosity, Pa · s

μ_{air} = air viscosity, Pa · s
 ν_{air} = kinematic viscosity of air, m²/s
 ρ = liquid density, kg/m³
 ρ_{air} = air density, kg/m³
 τ = dimensionless time, Eq. 2
 ω = rotational speed, rad/s

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Errata

In the paper entitled "Local Turbulence Model for Predicting Circulation Rates in Bubble Columns," by K.G. Anderson and R.G. Rice (35, March 1989, p. 514), the first term in Eq. 17 should read $2 \cdot \Gamma/3$ rather than $2/3\Gamma$. This typographical error did not affect the computed results.