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Diving birds CHRISTOPHE CLANET, LUCIEN MASSON, Ecole polytechnique, GARETH MCKINLEY, MIT-Mechanical Engineering, ROBERT COHEN, MIT-Chemical Engineering, ECOLE POLYTECHNIQUE COLLABORATION, MIT COLLABORATION — Many seabirds (gannets, pelicans, gulls, albatrosses) dive into water at high speeds (25 m/s) in order to capture underwater preys. Diving depths of 20 body lengths are reported in the literature. This value is much larger than the one achieved by men, which is of the order of 5. We study this difference by comparing the impact of slender vs bluff bodies. We show that, contrary to bluff bodies, the penetration depth of slender bodies presents a maximum value for a specific impact velocity that we connect to the velocity of diving birds.

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