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The turbulent wake of a submarine model at varying pitch and yaw angle MILOUD ALAOUI, ENSMA, ANAND ASHOK, ALEXANDER SMITS, Princeton University — The objective of the present study is to understand how the pitch and yaw angle affect the mean flow and turbulence in the wake of an axisymmetric submarine model (DARPA SUBOFF model). Measurements in the wake were performed at a Reynolds number based on the length of 2.37×10^6. Mean velocity and two-component turbulence measurements were performed using Pitot probes and hot wires in the span-wise plane at three different downstream positions: 5, 7.5 and 10 diameters downstream of the trailing edge. The range of measured angles of attack and yaw angles were limited to between 0 and 10° in part to avoid wind tunnel interference effects. Work supported by ONR Grant N00014-09-1-0263.

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