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Experimental investigation of axially aligned flow past spinning cylinders.[1] PASQUALE CARLUCCI, LIAM BUCKLEY, IGBAL MEHMEDAGIC, DONALD CARLUCCI, U. S. Army ARDEC, Picatinny Arsenal, NJ, SIVA THANGAM, Stevens Institute of Technology, Castle Point, Hoboken, NJ — Experimental and numerical results of ongoing subsonic investigations of the flow field about axially aligned spinning cylinders with variable inter-cylinder spacing are presented. The experimental design is capable of investigating wake dynamics of the modeled system up to a Reynolds Number of 300,000 and rotation numbers up to 2. The experimental results are used to validate and confirm numerical simulations with and without the effects of swirl. The focus of the overall effort is an understanding of the dynamics of multi-body problems in a flow field, as such we relate the ongoing effort to previous studies by both the authors and the community at large and our ongoing work in developing accurate plant models for use in engineering analysis and design.

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