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A Study about the steady-state regime on rotating compressible fluids and its application on a diffraction problem. ERICK MUINO-GARCIA, CINVESTAV-IPN, JOSE MARIN-ANTUNA, Universidad de La Habana — We develop a general study about the steady-state regime on rotating compressible fluids. We deduce an equation for the amplitude of the stabilized oscillations, and we obtain its fundamental solution. We establish the non-stationary problem for the field of velocities generated by the diffraction of an acoustic wave in a finite barrier within a rotating compressible fluid. We also solve analytically this problem and we study its behavior when the time tends to infinity. Then we apply the previously developed theory for the steady-state regime to obtain the mentioned field of velocities for big times, and by this way we obtain that the system reaches a steady-state regime and we verify that the same expressions of the limit amplitude are obtained.

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