1173-60-117   **Padmanabhan Sundar*** (`psundar@lsu.edu`), Department of Mathematics, 316, Lockett Hall, Fieldhouse Drive, Baton Rouge, LA 70803, and **Arnab Ganguly** (`aganguly@math.lsu.edu`), Department of Mathematics, Lockett Hall, Fieldhouse Drive, Baton Rouge, LA 70803. *A class of stochastic partial differential equations in fluid dynamics: Large and moderate deviation asymptotics.*

Large and moderate deviation principles, in small noise asymptotics, are established for a class of nonlinear stochastic partial differential equations. The stochastic perturbation is taken in the form of a multiplicative noise driven by a Poisson random measure. Existence and uniqueness of solutions to the stochastic systems with controls is proved by the method of local monotonicity. Weak convergence approach is used to to prove large and moderate deviation results. (Received September 18, 2021)