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Experimental evolution of sprays in a lung model JAVIER BURGUETE, University of Navarra, ALBERTO ALISEDA, University of Washington — We present the first results of an experiment conceived to observe the evolution of sprays inside the lungs. We have built a model that covers the first 6 generations (from the trachea to segmental bronchi of 5th generation). This setup is placed on a wind tunnel, and the flow inside the model is induced by a vacuum pump that emulates the breathing process using a valve. We inject a previously determined distribution of particles (water droplets), whose average diameter can be modified. Then, we measure the droplet distribution in different branches and compare how the droplet distribution is modified at each generation. The parameters that control the behavior are the average diameter of the original distribution, the airflow rate inside the model and the frequency of the breathing cycle.

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