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Aerosols in Performance[1] ABHISHEK KUMAR, JEAN HERTZBERG, TEHYA STOCKMAN, SHELLY MILLER, SAMEER PATEL, MARINA VANCE, DARIN TOOHEY, University of Colorado, Boulder — The COVID pandemic has created a great deal of fear and uncertainty around whether aerosols from singers, actors and brass and woodwind instruments can transmit the virus. Measurements of aerosol emissions, hot wire anemometry plus schlieren and laser sheet visualizations are being made of flow from a variety of performers, with and without mitigation devices such as masks and bags. Preliminary results indicate that more aerosols are emitted from these performers compared to a person speaking quietly. A wide range of jet behaviors are observed, ranging from laminar vortex dominated flows to coherent turbulent jets with significant penetration into the environment. Masks/covers on both humans and instruments are effective at reducing jet momentum, although aerosol mitigation is highly dependent on fit and filter material.

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