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The Effect of Winds at the LIGO Hanford Observatory on the Search for Burst Gravitational Waves AMBER STUVER, RAY DEAN, MATT CAESAR, Villanova Univ, LIGO SCIENTIFIC COLLABORATION COLLABORATION — In this talk, we will discuss the impact of winds at the LIGO Hanford Observatory (LHO) on the search for gravitational wave bursts. It is well known that high winds at LHO can contribute to poorer data quality and lower duty cycles. In order to assess the potential impact of mitigating the effect of the wind by constructing a wind fence, investigations were performed on searches for unmodelled transients and general glitch rates from early O3a. Specifically, we show that higher winds consistently increase the false alarm probability of events produced by the coherent WaveBurst burst search. We also show that the rate of general glitches increases up to 900% at the highest mean wind speeds observed. These results begin to characterize the effect of wind on the burst search and support the construction of a wind fence at LHO.

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