

Abstract Submitted  
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**Wind-waves interactions in the Gulf of Eilat**<sup>1</sup> ALMOG SHANI-ZERBIB, DAN LIBERZON, TECHNION, T-SAIL TEAM — The Gulf of Eilat, at the southern tip of Israel, with its elongated rectangular shape and unique diurnal wind pattern is an appealing location for wind-waves interactions research. Results of experimental work will be reported analyzing a continuous, 50 hour long, data. Using a combined array of wind and waves sensing instruments, the wave field statistics and its response to variations of wind forcing were investigated. Correlations between diurnal fluctuations in wind magnitude and direction and the wave field response will be discussed. The directional spread of waves' energy, as estimated by the Wavelet Directional Method, showed a strong response to small variations in wind flow direction attributed to the unique topography of the gulf surroundings and its bathymetry. Influenced by relatively strong winds during the light hours, the wave field was dominated by a significant amount of breakings that are well pronounced in the saturation range of waves spectra. Temporal growth and decay behavior of the waves during the morning and evening wind transition periods was examined. Sea state induced roughness, as experienced by the wind flow turbulent boundary layer, is examined in view of the critical layer theory.

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