COMPARISON OF PROPAGATION MEASUREMENTS OBTAINED USING THE MEDUSA SYSTEM WITH COMPUTER MODELLED DATA

(ABSTRACT)

by

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Sound propagation data obtained during a sea trial in the West Ligurian Sea with SACLANTCEN's MEDUSA deep research sonar have been used to extract multipath structure and propagation loss as a function of range, for three source depths (below, above and much above critical depth). These measured propagation characteristics have been compared with those obtained from the CONGRATS computer model, developed by Messrs Einstein, Cohen and Weinberg at US NUSC, New London.

The comparison shows generally good agreement between the measurements and the model. Agreement is good in multipath delays, in individual path levels and incoherent propagation loss when the array is below the critical depth. The agreement becomes less good when the array depth is decreased. Under these conditions the measured levels of the surface refracted and reflected arrivals are often lower than those predicted by the model. The agreement is poorest in caustic regions, where the measured data never follow the sharp decrease in propagation losses that the model predicts.

DISCUSSION

See Discussion following next paper.