

MODUS – Remotely Operated Carrier for Abyssal Research - Experiences in the Mediterranean Sea

Hans W. Gerber¹ and Günther F. Clauss², Sven Hoog²

¹ FB VIII – TFH Berlin, University of Applied Sciences
Berlin, Germany

² Division of Naval Architecture and Ocean Engineering, Technical University Berlin,
Berlin, Germany

ABSTRACT

This paper presents the development of MODUS as well as recent results its operation at Mediterranean abyssal depths. MODUS (MOBILE DOCKER FOR UNDERWATER SCIENCES) is a ROV specialized for deployment and recovery of heavy scientific benthic stations. Moreover, it can be used for various alternative deepwater applications, as surveying, and sampling (depth rated 4000 m). Core of the development is the GEOSTAR project (GEOPHYSICAL AND OCEANOGRAPHIC STATION FOR ABYSSAL RESEARCH, funded by the EU), for flexible operation of long-term benthic stations with a wide range of applications.

The prototype of MODUS has been built as a result of a design optimization process with hydrodynamic and hydroelastic analyses, laboratory tests etc. Results from the development are discussed as related to the system performance during sea-trials performed in the Mediterranean Sea. Future extensions of MODUS and its applications will be discussed.

KEY WORDS: Remotely Operated Vehicle, Research, Deep-Sea Operation