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Interactive comment on "A Compact Ocean Bottom Electromagnetic Receiver and Seismometer" *by* Kai Chen et al.

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Due to the small number and sparseness of the OBS, as well as the limited extent of the shot patch, it would be unrealistic to expect an image of comparable quality to the towed-streamer image. However, OBS is feasible and may be a powerful technology for deep water imaging projects. The superior quality seen in the OBS data is attributed to the following (Manley et al, 2005): 1) Geophone deployment in a quiet, seafloor environment, allowing good coupling with the seafloor may improve the signal-to-noise rate. 2) Wide-azimuth acquisition, enabling discrimination against overburden features that can potentially scatter energy. 3) High foldâĂŤthe fold of the PZ data is up to 10 times that of the streamer data, enabling a boost in signal-to-noise. 4) PZ summation, enabling receiver-side water-bottom multiple attenuation.

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Discussion paper

Besides, the CSEM is a new tool available to geophysicists for offshore gas hydrate exploration. Therefore, the OBEMS can used to active EM and seismic method for shallow gas hydrate mapping instead of replacing towed-streamer method.

References: Manley, Dominic & Mohammed, Sean & Robinson, Nigel & Thomas, Rowland. (2005). Structural interpretation of the deepwater Gunashli Field, facilitated by 4-C OBS seismic data. The Leading Edge. 24. 922-926. 10.1190/1.2056396.

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