

Interactive comment on “Estimating suspended sediment concentrations using a broadband ADCP in Mahshahr tidal channel” by P. Ghaffari et al.

Anonymous Referee

Received and published: 19 August 2011

The paper presents ADCP measurements of suspended sediments using in-situ sampling for calibration. These type of calibrations and ADCP measurements have been published for over a decade and so the paper adds nothing new to the field. What may have been new would have been some attempt to quantitatively use the observations to assess suspended sediment transport models; however, no such attempt is made.

I find the paper poorly written, there are grammatical and spelling errors and the diagrams are not clear; i.e. colour bars with no units, velocity figures with dates in the figure captions, suspended sediment measurements with no dates in the figure captions.

I also find the main core of the paper odd. Fig 2 shows the concentration calibration of the ADCP with concentrations between 10.5- 12.5 g/l which seem extremely high

C1

and the regression is negative, increasing acoustic intensity with reducing concentration. The calibration coefficients shown in figure 2 and its caption are also different to that given in the text. In fig 3 where the ADCP concentrations are assessed the concentration values are between 0.06-0.09 g/l significantly lower than the concentrations used for calibration. Also assessing the calibration over such a small concentration range does not inspire confidence that the calibration is valid over a much broader concentration range.

I generally find the paper adds little to our state of knowledge on sediment transport and the central component of the paper, the calibration of the ADCP, is somewhat atypical with a negative correlation between backscattered signal and concentration.

Interactive comment on Ocean Sci. Discuss., 8, 1601, 2011.