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Interactive
comment

Interactive comment on "About the Possibility of Identification of Hydrocarbon Deposits with the Help of NMR" *by* P. Ivashchenko et al.

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This paper describe well the background and main technical and scientific concerns of the NMR applied to sounding for hydrocarbons deposits detection. This technique can become very interesting oil & gas industry. Then, a theoretical approach to a novel method based on point-by-point sounding is also well described. The direct model is well known by the authors. Also, the benefits of this technique are stated in comparison with exploratory drilling. Some comments about offshore sounding would be welcome. Also (if true) to remark that there is no other remote technique to identify hydrocarbons deposits would be recommended. The practical demonstration of the technique is not described enough. (1) Laboratory scale or any semi-scale experiments has been carried out? It would be interesting to see how the theoretical models are validated in laboratory. Also this would allow to quantify the functional performances in terms of de-

tection probability, false alarm rate and others. (2) This is not only a theoretical paper because field experimental campaigns exist. In that line a more detailed description about the experiment is necessary such as pictures in field during the tests, experimental set-up description, instrumentation definition, etc. (3) Taking into account the promising experimental results showed, a deeper technical analysis about further industrial applicability would be also recommended, demonstrating so again the benefits of this technique (4) The paper mention a list of parameters that has been determined (page 7 line 11) but the results itself are not showed. The figures 11 and 12 are unintelligible. A table such as showed in figure 13 is better than the pictures.

In general terms, the paper is good enough to be accepted because the technique constitutes a significant step forward in the field Oil&Gas explorations but need to be more precise in the aspects mentioned above.