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**Synchronisation of underwater communication receivers by means
of broadband sweep-spread pulses**

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Using sweep spread pulses a variety of multipath components of a receive signal can be often resolved in time-frequency domain. In result of synchronisation of the receiver with the most powerful component, other multipaths can be effectively suppressed by means of a matched filter. Owing to exact synchronisation, the difference frequency will be equal to zero and outputs of matched filters will be good for estimation of (information) parameters. However, the synchronous component (as well as others) can occasionally turn out to be composite and to contain energy of several non-resolved multipaths. In this case, the synchronisation time of the receiver will be not exact and the difference frequency of demodulated signal will differ from zero. This effect will cause a systematic error in estimation of the information parameter. This paper represents the results of mathematic modelling of the systematic error (for receivers, utilising the sweep-spread carrier technology), as well as, experiments on synchronisation of the receiver by means of wideband sweep spread pulses.