

# **On millisecond and submillisecond hard gamma-ray pulsations from observations of the Crab pulsar with the GAMMA-1 Telescope**

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We present the results of a search for millisecond and submillisecond pulsations in hard gamma-ray emission from the Crab pulsar (PSR 0531+21) with the GAMMA-1 Telescope during a week observation in November 1990 and during a concluding stage of the GAMMA-1 performance in orbit (in December 1991). We give some arguments that the pulsations are real. In particular, we found the same pulsation period  $T$  for different observation intervals, that is possible if the pulsations were persistent. The present results on the Crab pulsar, together with data of 1996 on the Vela pulsar and the data of 2001 on the Geminga pulsar, allow us to suggest that the phenomenon of millisecond and submillisecond pulsations may be inherent to many gamma-ray pulsars, if not to all of them.