

STUDIES OF DARK RESONANCES IN Rb ATOMS  
IN THE FIELD OF LIGHT PULSE TRAIN

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S u m m a r y

Dark resonances in  $^{87}\text{Rb}$  vapor in the field of a femtosecond laser pulse train have been studied theoretically and experimentally. Three- and four-level schemes of interaction between an  $^{87}\text{Rb}$  atom and the field, which are formed by the field-coupled magnetic sublevels of states  $^2S_{1/2}$  and  $^3P_{3/2}$  of the rubidium atom have been analyzed. The position and the shape of the experimentally recorded dark resonance correspond to the results of our calculations. It has been shown that the interaction between rubidium vapor and a polychromatic field allows the signal to be enhanced substantially in comparison with that in the case of bichromatic field.