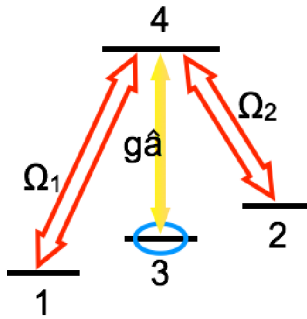


# Resonant Broadband Memory in Tripod-Type Atomic Ensemble

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We have considered theoretically a protocol of the broadband quantum memory based on the resonant interaction of fields with atoms in a tripod-type configuration. It is shown that quantum properties of light (particularly, squeezing) can be effectively mapped and then retrieved from the long-lived spin coherences. We discuss two readout configurations: the double-channel simultaneous readout and the single-channel successive one. In the first scheme a single pulse with quantum properties close to the initial signal is formed at the output of the memory cell. In the second case two pulses separated in space and time are formed in the entangled state.



**Figure. 1.** Tripod-type atomic configuration,  $\Omega_1$  and  $\Omega_2$  – Rabi frequencies of control fields,  $\hat{a}$  – the amplitude of the signal field.

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