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Extended time-dependent Ginzburg-Landau equations for rotating two-flavor color superconductors

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We discuss an extension of the time-dependent Ginzburg-Landau equations for rotating two-flavor color superconducting quark matter derived earlier. The extension treats the coefficient of the time-dependent term in the Ginzburg-Landau equation as complex number, whose imaginary part describes non-dissipative effects. We derive time- dependent London type equation for the color-electric potential which obtains an additional time-dependent contribution from this imaginary part. This additional term describes non-dissipative propagation effects. In addition we derive general expressions for the energy flux and the dissipative function of the system.

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