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For the differential equations

$$\left.\begin{aligned} \frac{\partial u(s,t)}{\partial s} &= Au(s,t) + f_1(s,t) \\ \frac{\partial u(s,t)}{\partial t} &= Bu(s,t) + f_2(s,t) \end{aligned}\right\} \quad (*)$$

where A and B are linear closed operators defined on a Banach space E, we give a new definition of the mild solution of $(*)$ and in order to have a solution of $(*)$ we introduce the condition $(\mathcal{D}_s - A)f_2 = (\mathcal{D}_t - B)f_1$ (where $\mathcal{D}_s$ and $\mathcal{D}_t$ are the partial differential operators with respect to s and t, respectively). As important special cases, we solve a question raised by Basit on 1971 which extend the Bohl-Bohr theorem to almost periodic functions with two variables. We also extend a theorem due to Loomis in the finite dimension case to the infinite dimension case under two conditions of Kadets. As application, we show the almost periodicity of double integral of almost periodic functions defined on the plane . Moreover, we show that the boundedness implies the almost periodicity for solutions of $(*)$ in the finite dimension case.

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