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Abstracts of Short Communications and Posters

## Section:

## 10. Partial Differential Equations

1991 MS Classification: 35, 41, 60
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**Multiplicative solution asymptotics for Kolmogorov-Feller equation and asymptotics of the boundary value problems**
In this report we explain the method for constructing exponential fundamental asymptotic solution of Kolmogorov-Feller equation. This method is based on a new formula representation of the Dirac delta function of the form Gaussian exponentials. The method allows us to construct asymptotic solutions for finite time and small time. For small time we write analytical formulas. Note that this method is valid not only for Kolmogorov-Feller equation. We define conditions under which our method works. Also, this method allows us to construct asymptotic solutions of initial boundary value problems. In this case the method is similiar to the reflection method for hyperbolic equations (like d'Alambert's formula and its generalizations). Many of these problems have a probability meaning. These results are obtained together with V. Danilov.
Reference: Danilov V. G., Frlovichev S. M. , Exact asymptotics of the transition probability density for discontinuous Markov process, Nach. Math. (in print).