S-TOPOLOGY ON THE SKOROKHOD SPACE. RECENT DEVELOPMENTS AND COMPLEMENTS

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It is known that the Skorokhod space of càdlàg functions is a Polish space when equipped with Skorokhod's J_1 topology. This topology, however, is non-linear, hence difficult in handling e.g. minimization problems. On the Skorokhod space there exists also a weaker, sequential topology, called S, in which addition is sequentially continuous and which have already found several applications.

In the talk we review typical applications of S-topology.

In the part related to complements we define a locally convex topology on the Skorokhod space and show that the sequential topology generated by the newly defined topology coincides with the S-topology. We shaw also how to define the S-topology on the space of càdlàg functions on the positive half line.

References

[1] A. Jakubowski, A non-Skorokhod topology on the Skorokhod space, Electronic Journal of Probability , 2 (1997), No 4, 1-21.