We are grateful to the reviewer for the comments and the typo found.

At the same time, we would like to note that the paper does not discuss a system with infinite coefficients. The question is on the properties of the function $A(t)$, it concerns only the smoothness of the solution, which, as indicated after (3), we do not discuss here. It follow directly from the procedure for constructing the solution, if this does not contradict the assumption of the existence of moments.

Of course, it would be much simpler to consider A finite on the entire segment $[0, T]$. But this would significantly impoverish the set of solutions to the problem, in particular, by removing periodic solutions. In fact, for the existence of moments only condition (10) must be satisfied, and it can be satisfied for an unlimited A. Therefore, we do not want to give up considering such interesting situations. At the same time, we agree that the question of the uniqueness of the extension beyond the blow up point arises, and it requires discussion. The extension procedure we proposed in Remark 1 is natural, but its uniqueness, with the exception of cases where the Riccati equation for A admits an explicit solution, is not so obvious. Therefore, we have changed the formulation of Lemma 1 taking this consideration into account.

Remark 1 describes a constructive procedure for extending A beyond the blow up point, which can be implemented numerically as well. It is based on the transition to the function A_1, which is also subject to some Riccati equation, but for which the singularity point for A is already the finite one. The final conditions for A_1 are taken from $T_1 \in (T_*, T]$, where A has already been found uniquely. The point T_1 is not a blow-up point (please read the text carefully). Another way to obtain the unique solution for A is to reduce the Riccati equation to a linear second-order equation (see explanation in text).