Alejandro Valverde

From: Alessandro Masi
Sent: Montag, 5. März 2018 09:28
To: Alejandro Valverde; Nilesh Chaudhari; Kurt Kolb; Fabio Riccardi; Sophie Robinson
Cc: Corrado Spernanzoni; Maurizio De Monte; Florian Kranich; Francesco Fresta
Subject: RE: MoM - Aircraft System Identification proposal

Good morning Alejandro,
your MoM seems to be in line with the arguments discussed in the meeting.
I have just an observation regarding the following point:

…In relation to the utilization of SID methods for P3 flights in summer, he remarked that this would be possible if the required software is developed previously. Once it is developed, the task of analysing the acquired flight test data would be instantaneous…

Usually the SID campaign follows the flight tests, and this simply because there is a big postprocess phase on the flight data, which has the aim to:

- If recorded data are not properly filtered and kinematic checked, there is a huge work to do for it. This because when the SID process starts, it shall be based on a solid and reliable database. We must be sure that we're identifying real maneuvers data and not, for example, a drift of a sensor (this is another branch of SID, there is also the possibility to model sensor errors, but at this stage I think it's out of the scope).
- Identify and isolate the data which can be used for parameter estimation (we need to have certain data set relative to precise maneuvers in order to have clear dynamics behaviors) and for model validation. Once you have found the parameters which allow you to have acceptable results on a certain data set, the obtained model must be validated on a series of different conditions. Typically you act on aerodynamic parameters for SID, but you have to be sure that the found values works also in different W/CG configurations!

For these reasons, I don't know if there will be the possibility to apply the SID process during the P3 flights... In my vision, P3 flights (some fractions of) could be used to collect data for SID, and in the meantime the tool can be developed. Providing a robust and reliable software for this scope is not a simple thing and requires a lot of time!

In the end, I would write like this in your MoM:

In relation to the utilization of SID methods for P3 flights in summer, after discussed and agreed with Flight test team and pilots, some fractions of the planned tests could be finalized at collecting data for this scope. In the meantime, a proper tool could be developed in order to be ready and usable as soon as suitable flight test data will be available.

Have a nice day,