Concept for CCSDS-130.1-G – Updates for TM coding Green Book

# Purpose

The proposed work is to update the existing Green Book, CCSDS 130.1-G, “TM Synchronization and Channel Coding -- Summary of Concept and Rationale”, to include material alternative, non-CCSDS compliant, architectures for encoders at high data rates (beyond 1 Gb/s). Additionally, the update may include material about the use and performance of LDPC of a stream of SMTFs.

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# Key Technical Features

Material to be added to the Green Book will include the description of an architecture for high data rate (beyond 1 Gb/s) encoding, not compliant with CCSDS but used anyway in some specific cases.

# Benefits

The inclusion of the material in the Green Book will provide a reference to some missions in case they need to adopt such architecture.

# Requirements of prospective missions

The material in the Green Book will simply report an existing situation, not necessarily linked to prospective missions.

**ANNEX 1 – Consistency with Charter**

The charter goals include the following goal:

* Update TM channel coding Blue Book with LDPC slicing.

The material to be included will at least partially address this goal.

**ANNEX 2 – Proposed CWE Projects**

**Title:** TM Synchronization and Channel Coding -- Summary of Concept and Rationale, Issue 3

**Document Number:** 130.1

**Document Type:** Green Book

**Description of Document:** This update to the Green Book will produce issue 3 including material relative to architectures for high data rate encoding and, possibly, material relative to LDPC slicing.

**Applicable Patents:** None (TBC)

**Patents Comments:** None (TBC)

**Book Editor (estimated resources + Agency Volunteering):** Total resources: 2 work-months, primarily shared between NASA and ESA. Nominal time from other Working Group members to review the document. Lead editor: NASA.

**Expected Contributing Agencies:** NASA, ESA

Expected Monitoring Agencies: NASA, ESA

**Schedule**

**Aug 2017 – July 2019**

**Total time to complete: 24months**

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| **Schedule Milestones** | **Forecast** | **Comments** |
| Project Approved | 01 Aug 2017 |  |
| Internal WG Review |
| - First draft circulated to WG | 01 Oct 2017 | At Spring 17 Meeting |
| - First draft comments due | 15 Nov 2017 |  |
| - Second draft circulated to WG | 30 December 2017 |  |
| - Second draft comments due | 28 February 2018 | Before Spring 18 Meeting |
| - Final WB Submitted to AD for further processing | 30 Apr 2018 | Following Spring 18 Meeting  |
| Secretariat Document Processing | 31 May 2019 |  |
| CMC Approval | 30 July 2019 | Includes CESG Poll + CMC Poll for PUBLICATION |