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(51) International classification :H03M0013110000, G06F0011100000, H03M0013000000, H04L0001000000, H03M0013290000 (86) International Application No :PCT// / Filing Date :01/01/1900 (87) International Publication No : NA (61) Patent of Addition to Application Number :NA Filing Date :NA (62) Divisional to Application Number :NA Filing Date :NA	(71)**Name of Applicant :** 1)**St. Martin's Engineering College** Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad ----------- ----------- **Name of Applicant : NA** **Address of Applicant : NA** (72)**Name of Inventor :** 1)**Dr. S. Ravi Kumar Associate Professor, ECE** Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad ---------- ----------- 2)**Mr. N. Vishwanath Assistant Professor, ECE** Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad ---------- ----------- 3)**Tanneru Rupa Student, ECE** Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad ---------- ----------- 4)**Gadidesi Raja Ravindra Babu Student, ECE** Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad ---------- ----------- 5)**Nuthulapati Sai Mani Shiva Sandilya Student, ECE** Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad ---------- ----------- 6)**Guggilla Meghana Student, ECE** Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad ---------- ----------- 7)**V Varshitha Student, ECE** Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad ---------- ----------- 8)**Maddi Kalyan Reddy Student, ECE** Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad ---------- ----------- 9)**Aitha Pravalika Student, ECE** Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad ---------- ----------- 10)**Palnati Pavan Kumar Student, ECE** Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad ---------- ----------- 11)**Venumula Kanakamahadevi ,Student, ECE** Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad ---------- -----------

(57) Abstract :

The transmission of data via more sophisticated forms of space communication is being hindered by a variety of various sorts of noise. In addition to that, the burst mistakes in data are caused by these disturbances. Therefore, the low-density parity checking codes, also known as LDPC, play the most important function in identifying and fixing faults. On the other hand, traditional hamming encoders and decoders could only detect and correct a single-bit mistake. As a result, the Multi-Bit Error Detection and Correction Codes (MBE-DCC), which are used for multiple-bit error detection and correction, have been implemented in this study. The MBE-DCC encoding method is first done by generating a generator matrix, which includes identity bits in addition to parity bits. The encoded code word is then sent across the channel of space communication, which is characterized by a variety of disturbances and mistakes that cause the data to become garbled. As a result, the MBE-DCC decoding operation was carried out on the receiver side of space communications. This operation repaired all the faults by making use of syndrome detection, error location decoder, and error correction modules. Based on the results of the simulations, it was discovered that the suggested MBE-DCC led to better performance than the traditional LDPC approaches.

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