WEIGHT-ENUMERATING FUNCTIONS OF SERIAL CONCATENATED CONVOLUTIONAL CODES

BY

LUMINIŢA SCRIPCARIU and PETRUŢ DUMA

A Serial Concatenated Convolutional Code (SCCC) is obtained based on a simple constituent trellis code applied once on the direct data sequence and secondly on the interleaved one [1]. The decoder works iteratively and uses the increased redundancy of the code words to correct more random errors or packets of errors so the SCC code has a higher error-correcting capacity than the basic code. An upper bound of the Bit-Error-Rate (BER) of the trellis code and of the associated SCCC could be expressed using some weight enumerating functions [2] and the Equivalent Block Code (EBC). BER upper bound estimation is made and numerical results are presented for some binary SCCC.