1163-41-126 Nabin Kumar Sahu* (nabinkumar_sahu@daiict.ac.in), DA-IICT, Gandhinagar, India. Frame expansion and construction of tight frames.

The notion of compression is given enormous attention in recent years because of its necessity in terms of the computational cost and other applicable features. But many a times the notion expansion appears to be quite useful. Tight frames are quite useful in signal reconstruction, signal and image de-noising, compressed sensing because of the availability of a simple, explicit reconstruction formula. So in this presentation, we discuss about the expansion of a frame by including some new vectors so that the new frame become a tight frame. We do the frame expansion in finite dimensional Hilbert spaces to construct tight frames. We formulate constructive algorithms to do the aforementioned task. The algorithms guarantee us to produce tight frames with very less computational cost. They also do not disturb the vectors in the given frame. We also present some applications of the aforementioned concept. (Received August 19, 2020)