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## **Abstract**

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Protein structure information [1] is needed to annihilate the root of many diseases whose cause is protein itself. One of the main tool to deal with structural proteomics[2] is NMR technique. Through NMR we can get protein structure. Protein structure determination through NMR [ 3,4,5 ] relies on mainly transform of original NMR signal that is obtained from protein solution. For small molecules there is little chance to get overlapping frequency bands and therefore NMR works fine. But, beyond a certain size limit there is a statistical chance or probability distribution of matching of net magnetization of proton of different functional group having different micro-environment.

Therefore the problem of size-limit for protein structure [6] evaluation by NMR should be solved by a transform technique by which we would be able to further resolve the overlapping band that we get from Fourier [7,8].

The idea of this project is to develop a new transform [9] pattern which give higher temporal and spectral resolution of NMR [10] signals along with spatial and velocity information so that more accurate and robust inference could be possible from NMR signal for structure determination of protein. In this context we will replace the frequency  $f$  by the velocity ( $v$ ) and wave number ( $w$ ) in the expression of DFT and some more necessary changes to get the Velocity wave number representation (VWR). By doing so we get the velocity-Wave number pattern of the signals. Our aim is to develop a transform technique that uses velocity distribution of NMR signal as main parameter for evaluating the structure and dynamicity of micro molecules [11].