

1106-94-1065      **Jessica OShaughnessy\*** ([joshaugh@su.edu](mailto:joshaugh@su.edu)), Shenandoah University, 1460 University Drive,  
Winchester, VA 22601. *Convolutional Codes from Group Rings*.

Units in the group ring have been used to construct several types of codes. This type of construction gives a strong algebraic component to coding. A new construction is proposed for constructing convolutional codes from units in the group ring. This is an extension of a previous convolutional code construction proposed by Hurley in 2009, with the intention of expanding the number of convolutional codes that can be constructed using units in the group ring. It uses a known isomorphism between group rings and rings of matrices to construct generator matrices for convolutional codes. The codes allow for less storage requirements for larger codes and are being considered for extension to other types of codes, such as LDPC convolutional codes and turbo codes. (Received September 10, 2014)