

Abstract

Cyclic MDS codes are a special subclass of linear codes and have received a lot of attention, as these codes have very important applications in many areas including quantum codes, designs and finite geometry. However, the existing construction methods for cyclic MDS codes are mainly focused on strict restrictions on certain parameters or are relatively complex in their construction approaches. The objective of this talk is to introduce a new construction method of cyclic MDS codes, which yields many non-RS type cyclic MDS codes. Compared with existing construction methods, this method is relatively simple. In particular, the parameters of the obtained non-RS cyclic MDS codes are flexible.