Abstract- Face recognition aims at endowing computers with the ability to identify different human beings according to their face images. However, recognition rate will decrease sharply when it refers to the non-ideal imaging environments or the incorporation of users, such as illumination, pose, expression variations and so on. Besides, it will be also influence the recognition results when the database is too large or small. Sparse representation based classification for face images has been one of efficient approaches for face recognition in recent years. Discrimination performance by using the sparse representation can also be applied to the face recognition, and any test sample can be expressed as a linear span of the all training samples. Experimental results show that face recognition method based on sparse representation is comparable to others.

Index terms: Face recognition; recognition rate; non-ideal imaging environments; sparse representation