Abstract:

The qualities of cockpit voices (sounds) recorded by Cockpit Voice Recorder (CVR) are key confirmations in exploring mishap foundations for destroyed plane. So as to investigating and diagnosing destroyed plane causes through cockpit voices in CVR, a few analysts are made as followings in this paper: Firstly, some commonplace foundation hints of cockpit voices, for example, wind shear sound, close earth sound admonition, take-off type of sound cautioning, alarm, etc, are gotten and arranged through tuning in and recognizing by adobe tryout sound programming in research facility. At that point, the qualities of these foundation sounds are extricated by signal investigations strategies, for example, Fourier Transform (FT), Wavelet Transform (WT, etc. Through these techniques, the unique attributes are depurated, for example, recurrence esteem, ghostly thickness, and recurrence line numbers. Thirdly, as the key aspect of the paper, contingent guidelines and issue trees standards centers around and applied so as to recognize also, analyze these exceptional qualities for surmised or diverse foundation hints of cockpit voices. Also, some accessible outcomes are gotten at last. Through all these above explores, new dissecting and diagnosing approaches are advanced, which are appropriate for precise getting a handle on the reason for flight mishap and examinations and analyze flight mishap. All the investigates and decisions have a specific reference for examination and finding of flight mishaps, and ensure flight security.

Both CVR and Flight Data Recorder(FDR) are formed the Airplane Black Box (Figure 1) [1], which is fundamental airborne gear for current business flight airplane, and plays an indispensable function in the airplane mishap examination and destroyed plane' cause examinations. The Cockpit Voice Recorder (CVR) records numerous sorts of sounds during flight, which is called as cockpit voice in the expert. Cockpit voice is primarily structure by the sound sign, which is regularly called as the cockpit sound data in designing. Exploration shows cockpit voices are frequently partitioned into three unique: including voices (phonetic), com-motion and foundation sounds in subtleties. Their frequencies of various foundation sounds are unique, and frequencies ranges are somewhere in the range of 150Hz and 6800Hz, and such wide recurrence go is troublesome to break down. Simultaneously, recurrence attributes are significant highlights for various foundation sounds. It is significant for us to get and precisely break down the various attributes of foundation sounds in the examination of flight mishaps and occurrences, which are straightforwardly identified with the wellbeing of airplane flight. So as to acquire essential data of cockpit voices, particularly the recurrence qualities, some dissecting ways are used (such as by the experience of flight and mishap examination experts, or then again through their ears, or different instruments). These are the conventional techniques of examination of the reasons for airplane mishaps. Notwithstanding, due to the unpredictability of the cockpit voice, part of the cockpit voice isn’t “perceived” or perceived by conventional methods. Lately, some advanced discourse signal preparing, PC sound innovation also, solid sign preparing innovations are utilized to remove, decipher the part cockpit voice to get the various qualities of the cockpit voice. It is critical to precisely pass judgment on flight mishap by various strategies to refine, investigation and determination the cockpit voice qualities to recognize the surmised cockpit voice. So as to examine and analyze cockpit voices, the analysts are made as followings in this paper: 1) commonplace foundation hints of cockpit voices are acquired and ordered; 2) the qualities of regular foundation sounds are separated; 3) rough or diverse regular foundation hints of cockpit voices are recognized and analysed.