











time effectively and grasp the the turn-off time and the change of current accurately with recording the transmitter current falling edge which offer the primary field data for late data processing. Variable programmed control receiving coil offers two receiving ways to eliminate the influence of transient process effectively. Designing the pre-amplification and programmed control amplification circuit with alternative amplification times and cooperating with different sampling periods can meet the detection demand of the changing signals in different stages of secondary field to record the change of secondary field more accurately. Choosing analog-digital converter of 24 precision can improve the conversion accuracy, and software programming can filter out interference from 50 Hz frequency signals with the method of the adaptive smoothing. The application results show that the developed high-performance mine transient electromagnetic system has good performance.

### CONFLICT OF INTEREST

The author confirms that this article content has no conflict of interest.

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