To prevent the human-machine systems operator performance degradation caused system error, in a safety-critical system, an adaptive operator task load scheduling strategy is a possible solution.

We adopted this idea by using an Operator Functional State (OFS) framework and set up a fuzzy forecasting model. This model was used to predict the operator next time performance according to the current EEG signals. The model is as follows:

\[ OFS(t + 1) = M(phydata(t)) \]

Where \( OFS \) is the operator performance, \( phydata \) means the operator physical signals such as EEG, and \( t \) is the time label.

With this model, we introduced an adaptive task scheduling module and an operator state generator. Finally, a simulation process was accomplished by those modules stated above. The simulation results also showed that such framework employed here was useful. With the adaptive strategy, mean operator performance improved from 79.6\% to 89.2\%, the breakdown times from 26 to 6 with a cost that the mean task load from 3 down to 2.86.