**Case1: a 8.8 Hz self-excited mode caused by delibarately detuned IBR current loop: DEF is effective**

A screenshot of a graph

Description automatically generated

A white rectangular object with black text

Description automatically generated**Correct.**

A graph with lines and numbers

Description automatically generated

A white rectangular object with black lines and numbers

Description automatically generated**inversely correctly**

A graph of lines and numbers

Description automatically generated with medium confidence

A blue rectangle with black lines and numbers

Description automatically generated**Wrong**

A graph with a line

Description automatically generated

A white rectangular object with black numbers and blue text

Description automatically generated **Wrong**

A graph with a line

Description automatically generated

**Case 2: a 1.5 Hz self-excited mode caused by high power output of IBR with low system strength: DEF fails**

**A screenshot of a graph

Description automatically generated**

1. **wrong**

A rectangular object with numbers and symbols

Description automatically generated

**A graph with different colored lines

Description automatically generated**

1. **wrong**

**A rectangular object with numbers and a number in the middle

Description automatically generated with medium confidence**

**A graph of different colored lines

Description automatically generated**

**A rectangular object with numbers

Description automatically generatedCorrect**

**A graph with lines and numbers

Description automatically generated A graph with lines and numbers

Description automatically generated**

1. **Wrong**

**A rectangular object with numbers in it

Description automatically generated**

**A graph with lines and numbers

Description automatically generated**