## Problem Formulation

When a fault happens inside the system the GFMs and GFLs turn into a current source with the current value of the current limiter threshold. Therefore, the goal is to determine the necessary current limiter criteria of the inverters with constraint of functioning at the farthest possible point in the system.

### MINLP first form

### MINLP Flipped form

### MINLP Final form

### NLP relaxed form

### NLP relaxed form (Quadratic)

|  |  |
| --- | --- |
| Oobjective Function |  |
| GFM |  |
| GFL |  |
| Normal Bus |  |
| Faulted Bus |  |
| Capacity Constraint |  |
| Load Flow Real |  |
| Load Flow Imaginary |  |
| Variables |  |

### NLP relaxed form (Extended)

|  |  |
| --- | --- |
| Oobjective Function |  |
| GFM |  |
| GFL |  |
| Normal Bus |  |
| Faulted Bus |  |
| Capacity Constraint |  |
| Load Flow Real |  |
| Load Flow Imaginary |  |
| Variables |  |

## Case Study

1

2

3\item \textbf{Computer Skills}

\begin{itemize}

4\item \textbf{Computer Skills}

\begin{itemize}

5\item \textbf{Computer Skills}

\begin{itemize}

6\item \textbf{Computer Skills}

\begin{itemize}

Fault

Last Status:

Constraints are running well

Objective is running Well

Dimensions are checked

Model creation failed (See https://yalmip.github.io/squareroots/)

Next Step: Linearize square roots