Amplitudes of the $f(t)$ functions, at selected center-of-mass energies, is shown on Figure . Greatest modulations of $t\bar{t}$ cross sections are expected in the benchmark scenarios $c_{XY} = c_{YX}$ and $c_{XX} = -c_{YY}$. The sensitivity is higher when probing components in the ecliptic plane.

At Tevatron, $t\bar{t}$ production was initiated mainly by $q\bar{q}$ annihilation while at the LHC, gg fusion is dominant. We compare the $f(t)$ amplitude, between samples generated at the same center-of-mass energy $\sqrt{s} = 1.96$ TeV for DØ and CMS. We find similar amplitudes between DØ and CMS at $\sqrt{s} = 1.96$ TeV for the benchmarks $c_{XX} = -c_{YY} \neq 0$ and $c_{XY} = c_{YX} \neq 0$. However, at the same energy and production mechanism, the LHC position induces worst expected sensitivity to $c_{XZ} = c_{ZX} \neq 0$ and $c_{YZ} = c_{ZY} \neq 0$ benchmarks. We scanned the latitude and azimuth of poential experiments on earth and foiund that both ATLAS or CMS sit in a dip for the projected sensitivity on those SME coefficients.

Experiment	c_{LXX}/c_{LXY}	c_{LXZ}/c_{LYZ}
▷ Tev (DØ)	▷ $\Delta c_{LXX} = 1 \times 10^{-1}$	▷ $\Delta c_{LXZ} = 8 \times 10^{-2}$
▷ LHC Run-II (CMS)	▷ $\Delta c_{LXX} = 2 \times 10^{-4}$	▷ $\Delta c_{LXZ} = 5 \times 10^{-4}$
▷ HL-LHC	▷ $\Delta c_{LXX} = 2 \times 10^{-5}$	▷ $\Delta c_{LXZ} = 9 \times 10^{-5}$
▷ HE-LHC	▷ $\Delta c_{LXX} = 4 \times 10^{-6}$	▷ $\Delta c_{LXZ} = 2 \times 10^{-5}$
▷ FCC	▷ $\Delta c_{LXX} = 1 \times 10^{-6}$	▷ $\Delta c_{LXZ} = 4 \times 10^{-6}$

Expériences	c_{RXX}/c_{RXY}	c_{RXZ}/c_{RYZ}
▷ Tev (DØ)	▷ $\Delta c_{RXX} = 9 \times 10^{-2}$	▷ $\Delta c_{RXZ} = 7 \times 10^{-2}$
▷ LHC Run-II (CMS)	▷ $\Delta c_{RXX} = 4 \times 10^{-4}$	▷ $\Delta c_{RXZ} = 2 \times 10^{-3}$
▷ HL-LHC	▷ $\Delta c_{RXX} = 9 \times 10^{-5}$	▷ $\Delta c_{RXZ} = 3 \times 10^{-4}$
▷ HE-LHC	▷ $\Delta c_{RXX} = 2 \times 10^{-5}$	▷ $\Delta c_{RXZ} = 6 \times 10^{-5}$
▷ FCC	▷ $\Delta c_{RXX} = 5 \times 10^{-6}$	▷ $\Delta c_{RXZ} = 2 \times 10^{-5}$

Expériences	c_{XX}/c_{XY}	c_{XZ}/c_{YZ}
▷ Tev (DØ)	▷ $\Delta c_{XX} = 7 \times 10^{-1}$	▷ $\Delta c_{XZ} = 6 \times 10^{-1}$
▷ LHC Run-II (CMS)	▷ $\Delta c_{XX} = 2 \times 10^{-4}$	▷ $\Delta c_{XZ} = 6 \times 10^{-4}$
▷ HL-LHC	▷ $\Delta c_{XX} = 3 \times 10^{-5}$	▷ $\Delta c_{XZ} = 1 \times 10^{-4}$
▷ HE-LHC	▷ $\Delta c_{XX} = 6 \times 10^{-6}$	▷ $\Delta c_{XZ} = 2 \times 10^{-5}$
▷ FCC	▷ $\Delta c_{XX} = 1 \times 10^{-6}$	▷ $\Delta c_{XZ} = 4 \times 10^{-6}$

Expériences	d_{XX}/d_{XY}	d_{XZ}/d_{YZ}
▷ Tev (DØ)	▷ $\Delta d_{XX} = 9.9 \times 10^{-2}$	▷ $\Delta d_{XZ} = 7.2 \times 10^{-2}$
▷ LHC Run-II (CMS)	▷ $\Delta d_{XX} = 9.5 \times 10^{-5}$	▷ $\Delta d_{XZ} = 3.5 \times 10^{-4}$
▷ HL-LHC	▷ $\Delta d_{XX} = 1.8 \times 10^{-5}$	▷ $\Delta d_{XZ} = 6.8 \times 10^{-5}$
▷ HE-LHC	▷ $\Delta d_{XX} = 3.4 \times 10^{-6}$	▷ $\Delta d_{XZ} = 1.2 \times 10^{-5}$
▷ FCC	▷ $\Delta d_{XX} = 7.8 \times 10^{-7}$	▷ $\Delta d_{XZ} = 2.9 \times 10^{-6}$

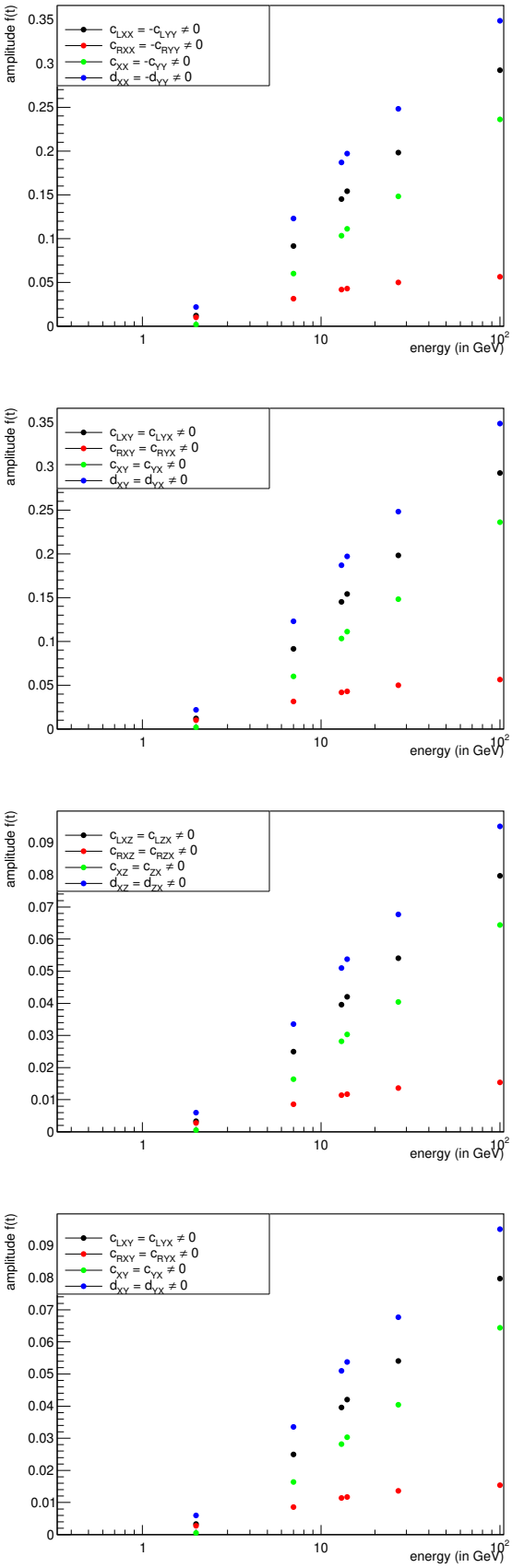

FIGURE 1 – Amplitude for experiments DØ, CMS (LHC), CMS (HL-LHC), CMS (HE-LHC) and FCC for all $c_{\mu\nu}$ benchmark

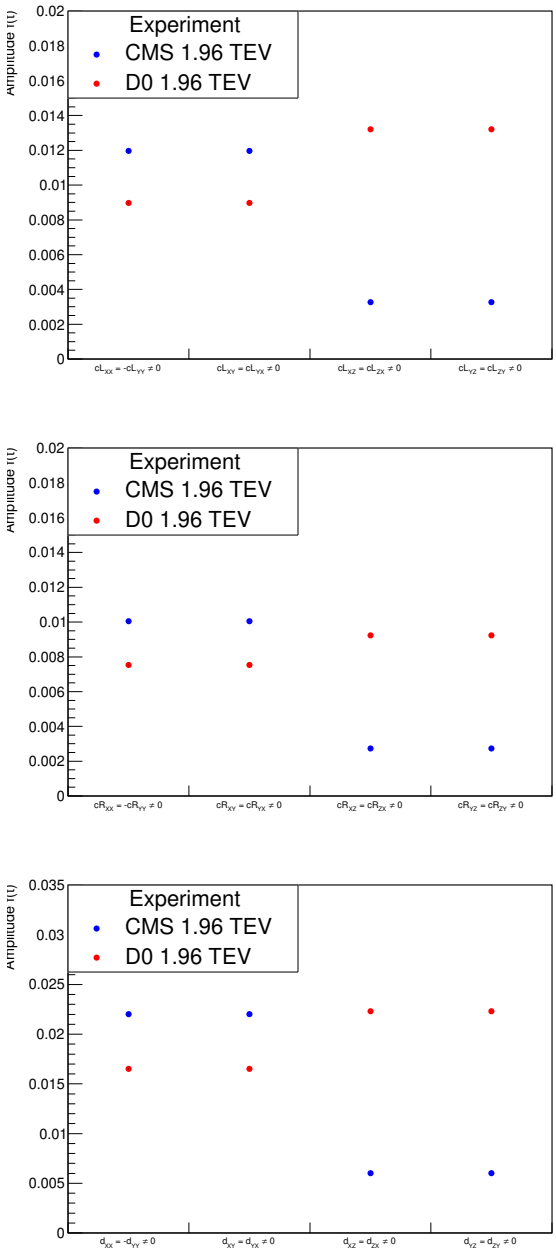

FIGURE 2 – Amplitude comparaison for DØ and CMS at $\sqrt{s} = 1.96$ TeV