

A

Single Machine System

The simulations in Chapter 5 use the parameters below, which are partly taken from the test system in Chapter 6.

S_{base}	0.88 MVA	$\equiv 1$ p.u.
U_{base}	3.85 kV	$\equiv 1$ p.u.
H	3.8 s	
X'_d+X_t	7 Ω	0.42 p.u.
X_{tl}	3 Ω	0.18 p.u.

The operating point used at the field test was

P_g	0.4 MW	0.45 p.u.
Q_g	0 Mvar	0 p.u.

Assuming that

V	3.85 kV	1 p.u.
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gives

δ	15.3°	
θ	4.6°	
E'	3.92 kV	1.02 p.u.
V_∞	3.86 kV	1.0 p.u.

The switched load was

P_{load}	20 kW	0.023 p.u.
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