

dev_alter

November 18, 2024

1 Enhance method alter

```
[1]: import andes
```

```
[2]: andes.__version__
```

```
[2]: '1.9.1.post100.dev0+g2b17faac'
```

```
[3]: ss = andes.load(andes.get_case('5bus/pjm5bus.xlsx'),  
                    setup=True,  
                    no_output=True)
```

```
[4]: ss.GENCLS.as_df().round(2)
```

```
[4]:      idx  u name bus gen coi coi2 Sn Vn fn ... M ra \  
uid  
0      0  1.0  0  0  0 None None 200.0 230.0 60.0 ... 8.0 0.0  
1      2  1.0  2  2  2 None None 300.0 230.0 60.0 ... 12.0 0.0  
2      3  1.0  3  3  3 None None 200.0 230.0 60.0 ... 8.0 0.0  
3      4  1.0  4  4  4 None None 300.0 230.0 60.0 ... 12.0 0.0  
  
      xl  xd1  kp  kw  S10  S12  gammap  gammaq  
uid  
0      0.0  0.85  0.0  0.0  0.15  0.7  1.0  1.0  
1      0.0  0.57  0.0  0.0  1.00  1.0  1.0  1.0  
2      0.0  0.85  0.0  0.0  1.00  1.0  1.0  1.0  
3      0.0  0.57  0.0  0.0  1.00  1.0  1.0  1.0
```

[4 rows x 21 columns]

If set `system_base=True`, the value will be considered as system base, so no need to do the manual conversion.

```
[5]: ss.GENCLS.alter(src='M', idx=ss.GENCLS.idx.v, value=1, system_base=True)  
ss.GENCLS.as_df().round(2)
```

```
[5]:      idx  u name bus gen coi coi2 Sn Vn fn ... M ra \  
uid  
...
```

0	0	1.0	0	0	0	None	None	200.0	230.0	60.0	...	1.0	0.0
1	2	1.0	2	2	2	None	None	300.0	230.0	60.0	...	1.0	0.0
2	3	1.0	3	3	3	None	None	200.0	230.0	60.0	...	1.0	0.0
3	4	1.0	4	4	4	None	None	300.0	230.0	60.0	...	1.0	0.0

	x1	xd1	kp	kw	S10	S12	gammap	gammaq
uid								
0	0.0	0.85	0.0	0.0	0.15	0.7	1.0	1.0
1	0.0	0.57	0.0	0.0	1.00	1.0	1.0	1.0
2	0.0	0.85	0.0	0.0	1.00	1.0	1.0	1.0
3	0.0	0.57	0.0	0.0	1.00	1.0	1.0	1.0

[4 rows x 21 columns]

In this way, the change can be reflected in the dumped case file.

```
[6]: andes.io.json.write(ss, 'pjm5bus_v1.json', overwrite=True)

ss_v1 = andes.load('pjm5bus_v1.json', no_output=True, setup=True)
ss_v1.GENCLS.M.v
```

```
[6]: array([1., 1., 1., 1.])
```