

Supplementary Information for

Decision-Dependent Adversarial Planning for Cyber-Resilient Solar-Rich Power Grids

Yifan Liu, Bowen Xu, Wenxuan Ma, Shiyi Zhao, Mengxiang Liu, Ruilong Deng, Peng Cheng, and Jiming Chen

Corresponding Ruilong Deng.

E-mail: dengruilong@zju.edu.cn

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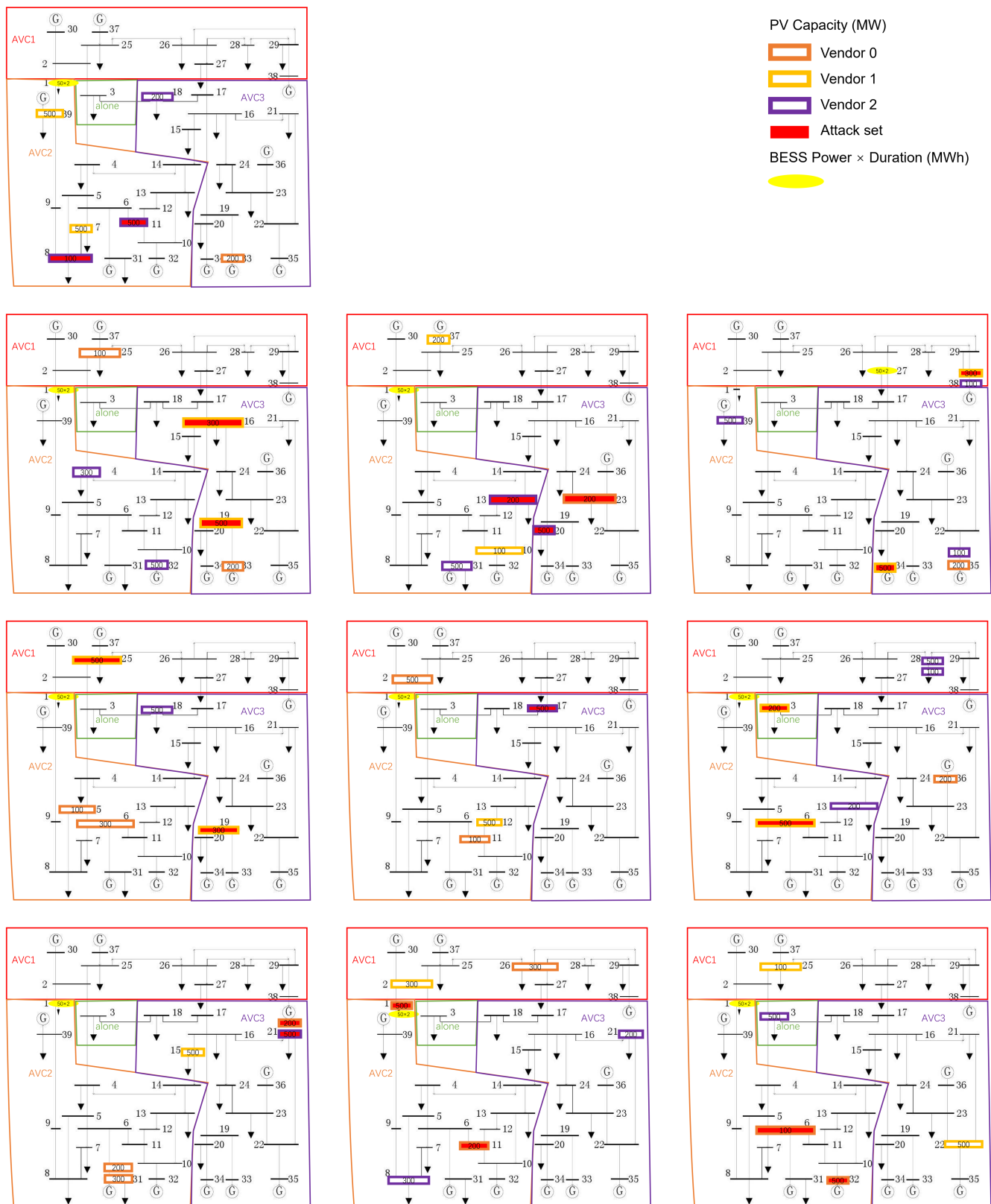


Fig. S1. Planning solutions obtained by DD-ABO over 10 independent runs and the corresponding worst-case attacks under reasonable assumptions.

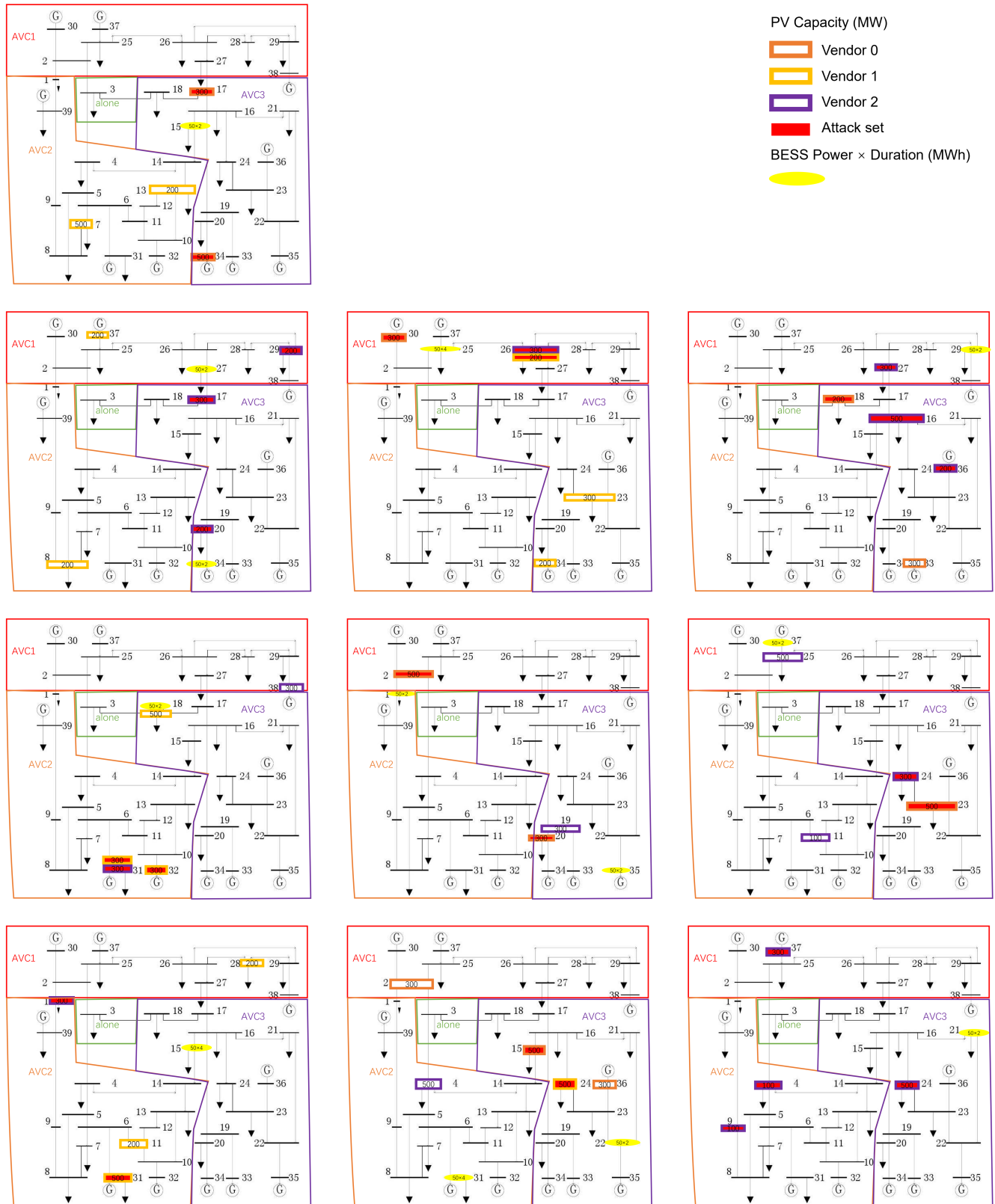


Fig. S2. Planning solutions obtained by DD-GA over 10 independent runs and the corresponding worst-case attacks under reasonable assumptions.

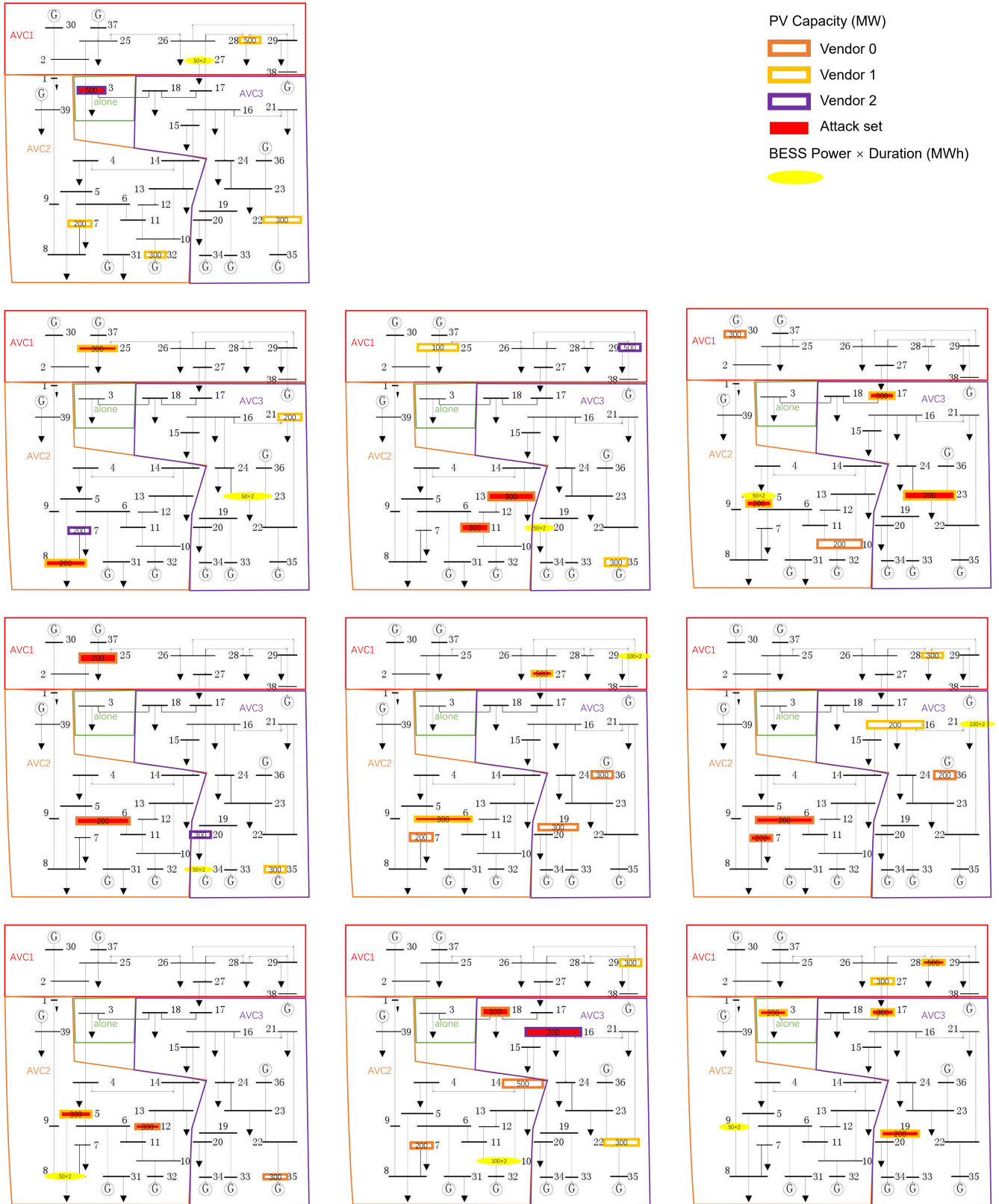


Fig. S3. Planning solutions obtained by DD-PSO over 10 independent runs and the corresponding worst-case attacks under reasonable assumptions.

Table S1. Configurations of PV Systems with Integrated Storage

Coupling	Co-Located	Point of Common Coupling	Energy Stored
Independent	No	None	Grid (include PV)
AC-coupled	Yes	Transmission or feeder	Grid or PV
DC-coupled	Yes	DC side of inverter (bi-direction)	Grid or PV
DC tightly coupled	Yes	DC side of inverter (DC to AC only)	Only PV

Table S2. Simulation and Optimization Parameters

Parameter	Setting	Parameter	Setting	Parameter	Setting	Parameter	Setting	Parameter	Setting
N_{init}	100	SOC_{min}	0.1	R^{up}	0.1	λ_1	0.33	(X-BO) M	300
N_{iter}	300	SOC_{max}	0.9	R^{down}	0.15	λ_2	0.33	(X-BO) $ \mathcal{Z}_{cand} $	5000
$\mathcal{P}^{PV}$	100, 200, 300, 500	η_{ch}	0.95	c_B^m	15000	λ_3	0.34	(X-BO) max_features	0.3
$\mathcal{P}^{BESS}$	50, 100, 200, 300	η_{dis}	0.95	c^{fuel}	30	π	10000	(X-BO) min_samples_leaf	5
$\mathcal{T}^{BESS}$	2.0, 4.0	L_{PV}	25	π^{CO_2}	50	P^{min}	0.2	(X-BO) min_samples_split	10
K_{max}^{PV}	6	L_{BESS}	15	e	0.6	P^{max}	1.0	(DD-GA) pop_size	20
K_{max}^{BESS}	6	c_{PV}^{inv}	1200000	c^{cyc}	5	(DD-PSO) w	0.7298	(DD-GA) generations	9
$\mathcal{M}$	1, 2, 3	c_{PV}^m	15000	π^{PPA}	40	(DD-PSO) c1	1.49618	(DD-PSO) pop_size	20
r	0.08	$c_{B,p}^{inv}$	1200000	d_0	2.0	(DD-PSO) c2	1.49618	(DD-PSO) max_iter	9
ρ^{ITC}	0.3	$c_{B,e}^{inv}$	300000	α	1.2	(DD-PSO) v_max	0.3	(DD-PSO) v_min	-0.3