1   Experimental Results

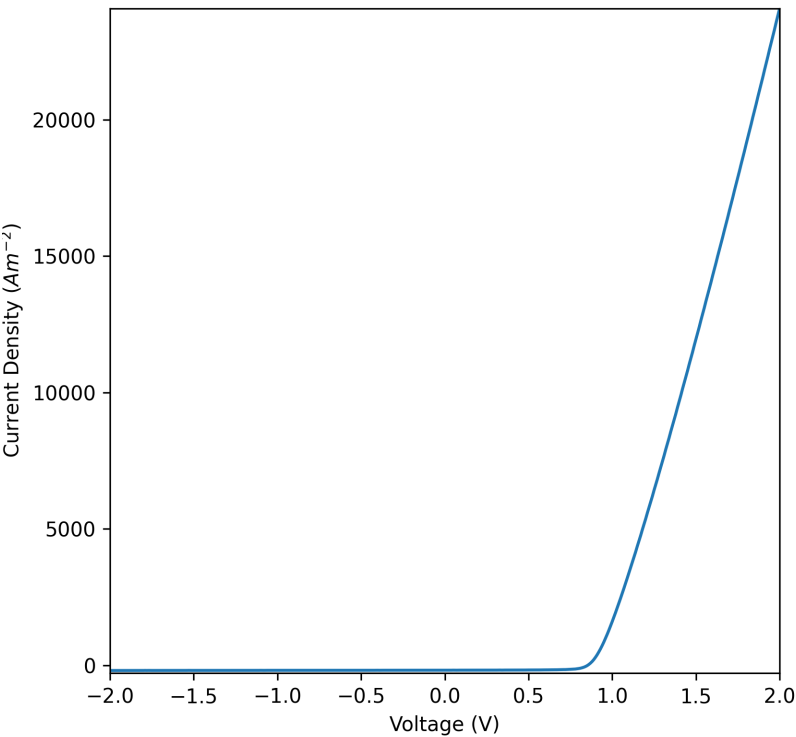Figure 1: Experimental Input Characteristic

Table 1: Parameters calculable from input characteristic
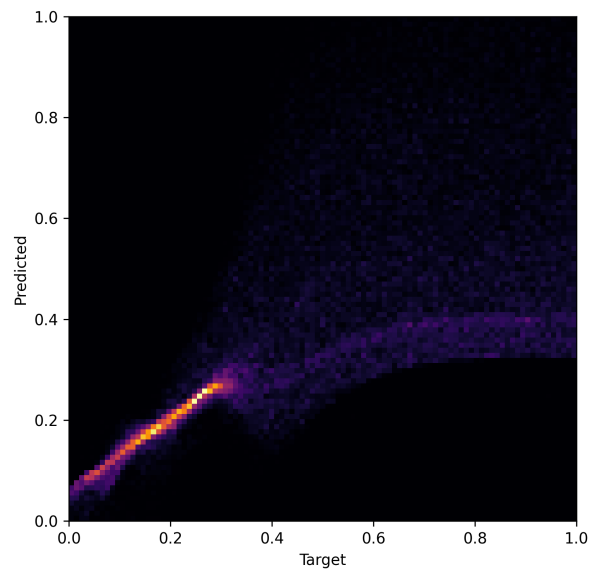
Parameter	Value	Unit
Jsc	176.250	Am^{-2}
Voc	0.850	V
FF	0.739	$a.u$
Pmax	110.700	Wm^{-2}
PCE	11.070	$Percent$

2   Machine Learning Parameters

Table 2: Machine learning predictions by the single method

Parameters	Mean	Units	MAPE (%)
Shunt resistance	0.136	QLabel	47.465
Series resistance	3.959	QLabel	8.997
Fill factor	1.099	QLabel	42.179
Power conversion efficiency (PCE)	11.687	QLabel	6.607
V_{oc}	0.867	QLabel	6.218
J_{sc}	-2.05e+02	QLabel	2.645

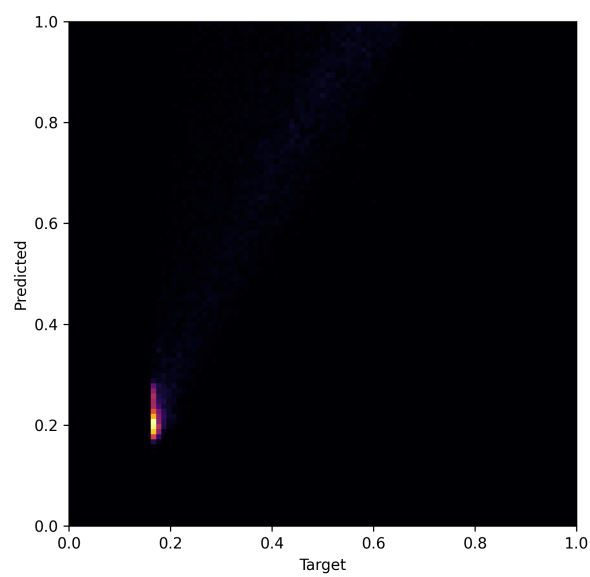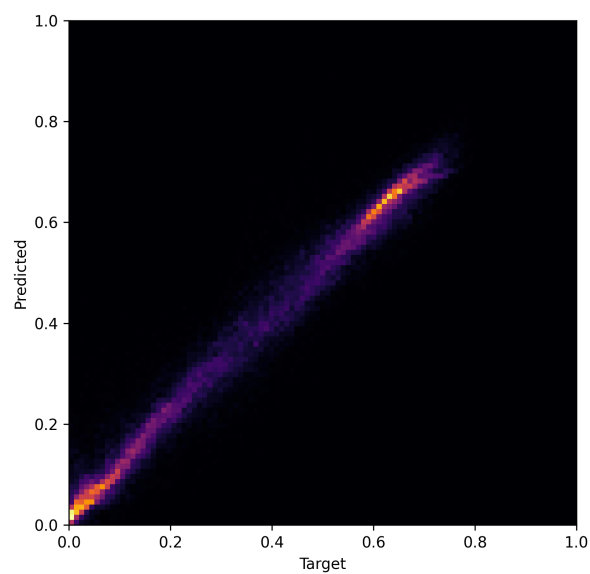## 2.1   Shunt resistance
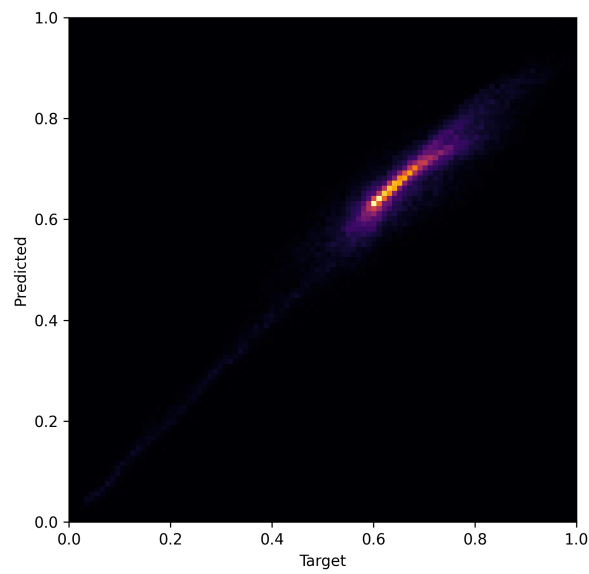

2.2   Series resistance

2.3 Fill factor

2.4 Power conversion efficiency (PCE)

2.5 V$_{oc}$

2.6 J$_{sc}$