

### **Table Captions**

**Table 1** Basic physical and mechanical parameters of the studied rocks

**Table 2** Summary of the testing parameters in uniaxial fatigue tests

**Table 3** Summary of the measured modulus of different specimens in uniaxial fatigue tests

**Table 1** Basic physical and mechanical parameters of the studied rocks

Rock type	Specimen No.	$\sigma_{ucs}$ (MPa)	$E_y$ (GPa)	$\mu$	$V_L (m \cdot s^{-1})$
Granite	G-1; G-2; G-3	112.50	35.45	0.23	4583.37
Marble	M-1; M-2; M-3	54.81	30.30	0.26	3212.32
Sandston e	S-1; S-2; S-3	31.85	8.60	0.28	2238.18

Rock type	Group No.	Specimen No.	$\sigma_{\max}$ ( MPa )	Peak ratio (%)	$\sigma_{\min}$ (MPa)	Valley ratio (%)	Failure cycle No.
Sandstone	A	DS-1	29.00	90	22.55	70	31254
		DS-2	29.00	90	22.55	70	33871
	B	DS-3	29.00	90	26.78	80	16879
		DS-4	29.00	90	26.78	80	16382
	C	DS-5	30.60	95	26.78	80	11213
		DS-6	30.60	95	26.78	80	8997
Marble	A	DM-1	49.17	90	38.24	70	72000
		DM-2	49.17	90	38.24	70	72000
	B	DM-3	49.17	90	43.70	80	72000
		DM-4	49.17	90	43.70	80	72000
	C	DM-5	51.90	95	43.70	80	113
		DM-6	51.90	95	43.70	80	56
Granite	A	DG-1	101.22	90	78.73	70	72000
		DG-2	101.22	90	78.73	70	72000
	B	DG-3	101.22	90	89.98	80	3956
		DG-4	101.22	90	89.98	80	3136
	C	DG-5	106.85	95	89.98	80	56
		DG-6	106.85	95	89.98	80	17

Note: Peak ratio is the value of  $\sigma_{\max}$  divided by  $\sigma_{\text{ucs}}$ , and Valley ratio is the value of  $\sigma_{\min}$  divided by  $\sigma_{\text{ucs}}$ .

**Table 3** Summary of the measured modulus of different specimens in uniaxial fatigue tests

Specimens No.	$E_y$	$E_s$	Loading	Unloading	Loading	Unloading
			$E_{dtm}$	$E_{dtm}$	$E_{dsm}$	$E_{dsm}$
<i>DS-1</i>	10.46	6.32	16.81	17.19	6.81	6.81
DS-2	8.38	4.64	17.02	18.94	7.03	7.04
DS-3	7.62	5.37	16.12	16.65	6.16	6.17
DS-4	7.00	4.08	15.90	16.72	6.43	6.45
DS-5	6.89	4.72	16.23	17.32	5.83	5.76
DS-6	7.66	3.96	16.58	17.40	5.37	5.37
DM-1	35.30	27.09	45.44	45.56	21.49	21.97
DM-2	41.00	43.30	50.33	49.86	21.13	22.02
DM-3	39.63	29.18	56.18	55.09	23.48	22.81
DM-4	25.18	24.97	46.18	37.66	20.32	20.19
DM-5	29.24	19.82	45.56	57.24	17.57	19.27
DM-6	33.18	22.86	42.10	49.65	16.52	18.29
DG-1	30.22	27.83	49.63	51.40	20.29	20.70
DG-2	32.32	21.69	47.99	50.11	14.45	19.55
DG-3	32.60	27.69	46.94	49.16	26.00	25.67
DG-4	42.14	29.46	44.17	46.78	22.43	22.84
DG-5	38.12	21.51	39.67	44.66	17.02	16.98
DG-6	27.33	22.86	37.43	40.63	22.60	22.20

\*Note:  $E_{dtm}$  and  $E_{dsm}$  refers to the average value in stable stage during fatigue loading