Table 1.1 *Black Hole Mass Measurements*

Galaxy	D (Mpc)	σ_e (km/s)	$M_\bullet$ ($M_{\rm low}, M_{\rm high}$) ($M_\odot$)		$r_{\rm cusp}$ (arcsec)	σ_* (arcsec)	$r_{\rm cusp}/\sigma_*$	Reference
Galaxy	0.008	103	3.7 (3.3 – 4.1)	e6	38.8	0.0159	2438.	Ghez 2003
Galaxy			3.7 (2.2 – 5.2)	e6		0.0159	2438.	Schödel + 2002
Galaxy			2.0 (1.3 – 2.7)	e6		0.113	343.	Chakrabarty + 2001
Galaxy			3.0 (2.6 – 3.3)	e6		0.26	150.	Genzel + 2000
Galaxy			2.6 (2.4 – 2.8)	e6		0.39	100.	Ghez + 1998
Galaxy			2.6 (2.3 – 3.0)	e6		0.39	100.	Genzel + 1997
Galaxy			2.5 (2.1 – 2.9)	e6		0.39	100.	Eckart + 1997
Galaxy			2.7 (2.4 – 3.0)	e6		2.60	14.9	Genzel + 1996
Galaxy			1.8 (1.3 – 2.3)	e6		3.6	10.8	Haller + 1996
Galaxy			2.8 (1.9 – 3.8)	e6		3.4	11.4	Krabbe + 1995
Galaxy			2.	e6		5.2	7.5	Evans + 1994
Galaxy			3.	e6		5.2	7.5	Kent 1992
Galaxy			5.2 (3.8 – 6.6)	e6		5.2	7.5	Sellgren + 1990
M 31			1.0	e8		0.297	10.8	Peiris + 2003
M 31	0.76	160	7.0 (3.0–20.0)	e7	3.20	0.039	81.	Bender + 2003
M 31			7.0 (3.5 – 8.5)	e7		0.052	61.	Bacon + 2001
M 31			3.3 (1.5 – 4.5)	e7		0.297	10.8	Kormendy + 1999
M 31			5.9 (5.7 – 6.1)	e7		0.297	10.8	Magorrian + 1998
M 31			7.4	e7		≈ 0.57	≈ 5.6	Tremaine 1995
M 31			7.8	e7		0.39	8.2	Bacon + 1994
M 31			5.0 (4.4 – 5.5)	e7		0.60	5.3	Richstone + 1990
M 31			3.6 (1.1–10.9)	e7		0.57	5.6	Kormendy 1988a
M 31			7.7 (3.3 – 7.7)	e7		0.60	5.3	Dressler + 1988
M 32	0.81	75	2.9 (2.3 – 3.5)	e6	0.56	0.052	10.83	Verolme + 2002
M 32			3.7 (2.6 – 5.0)	e6		0.052	10.83	Joseph + 2001
M 32			2.4 (2.2 – 2.6)	e6		0.23	2.41	Magorrian + 1998
M 32			4.0 (3.1 – 4.8)	e6		0.050	11.39	van der Marel + 1998b
M 32			4.0 (2.1 – 5.8)	e6		0.050	11.39	van der Marel + 1997ab
M 32			3.2 (2.6 – 3.7)	e6		0.23	2.41	Bender + 1996
M 32			2.1 (1.9 – 2.3)	e6		0.34	1.66	Dehnen 1995
M 32			2.1	e6		0.34	1.66	Qian + 1995
M 32			2.1 (1.7 – 2.4)	e6		0.34	1.66	van der Marel + 1994b
M 32			2.2 (0.8 – 3.5)	e6		0.59	0.95	Richstone + 1990
M 32			9.4 (4.7–18.9)	e6		0.59	0.95	Dressler + 1988
M 32			7.6 (3.5–11.6)	e6		0.76	0.75	Tonry 1987
M 32			5.9	e6		1.49	0.38	Tonry 1984
M 81	3.9	143	6.8 (5.5 – 7.5)	e7	0.76	0.068	11.08	Bower + 2000
NGC 821	24.1	209	3.7 (2.9 – 6.1)	e7	0.031	0.052	0.60	Gebhardt + 2003
NGC 1023	11.4	205	4.4 (3.9 – 4.8)	e7	0.081	0.068	1.18	Bower + 2001
NGC 2778	22.9	175	1.4 (0.5 – 2.2)	e7	0.018	0.052	0.34	Gebhardt + 2003
NGC 3115	9.7	182	1.0 (0.4 – 2.0)	e9	2.77	0.047	59.	Tremaine + 2002
NGC 3115			6.3 (2.9 – 9.7)	e8		0.111	24.9	Emsellem + 1999
NGC 3115			4.7 (4.4 – 4.9)	e8		0.26	10.6	Magorrian + 1998
NGC 3115			1.5	e9		0.047	59.	Kormendy + 1996a
NGC 3115			1.6 (1.1 – 2.1)	e9		0.50	5.5	Kormendy + 1992
NGC 3377			5.7 (3.4 –11.)	e7		0.29	1.3	Cretton + 2003
NGC 3377	11.2	145	1.0 (0.9 – 1.9)	e8	0.38	0.111	3.4	Gebhardt + 2003
NGC 3377			6.9 (6.3 – 7.7)	e7		0.24	1.57	Magorrian + 1998
NGC 3377			2.0 (1.1 – 2.9)	e8		0.24	1.57	Kormendy + 1998
NGC 3379	10.6	206	1.0 (0.6 – 2.0)	e8	0.201	0.111	1.81	Gebhardt + 2000a
NGC 3384	11.6	143	1.6 (1.4 – 1.7)	e7	0.060	0.052	1.15	Gebhardt + 2003
NGC 3608	22.9	182	1.9 (1.3 – 2.9)	e8	0.223	0.052	4.3	Gebhardt + 2003
NGC 4258	7.2	105	2.0 (1.0 – 3.0)	e7	0.44	0.052	8.4	Siopis + 2003

Table 1.1 *Black Hole Mass Measurements*

Galaxy	D (Mpc)	σ_e (km/s)	$M_\bullet$ $(M_{\rm low}, M_{\rm high})$ $(M_\odot)$	$r_{\rm cusp}$ (arcsec)	σ_* (arcsec)	$r_{\rm cusp}/\sigma_*$	Reference
NGC 4291	26.2	242	3.1 (0.8–3.9) e8	0.180	0.052	3.45	Gebhardt + 2003
NGC 4342	15.3	225	3.1 (2.0–4.8) e8	0.351	0.135	2.60	Cretton + 1999a
NGC 4473	15.7	190	1.1 (0.3–1.5) e8	0.173	0.052	3.31	Gebhardt + 2003
NGC 4486B	16.1	185	6.0 (4.0–9.0) e8	0.97	0.258	3.75	Kormendy + 1997
NGC 4564	15.0	162	5.6 (4.8–5.9) e7	0.127	0.052	2.43	Gebhardt + 2003
NGC 4594			6.9 (6.7–7.0) e8		0.46	3.78	Magorrian + 1998
NGC 4594	9.8	240	1.1 (0.3–3.4) e9	1.73	0.111	15.61	Kormendy + 1996b
NGC 4594			5.4 (4.9–6.0) e8		0.46	3.78	Emsellem + 1994
NGC 4594			5.4 (1.7–17.2) e8		0.46	3.78	Kormendy 1988b
NGC 4649	16.8	385	2.0 (1.4–2.4) e9	0.71	0.052	13.71	Gebhardt + 2003
NGC 4697	11.7	177	1.7 (1.6–1.9) e8	0.41	0.052	7.9	Gebhardt + 2003
NGC 4742	15.5	90	1.4 (0.9–1.8) e7	0.099	0.068	1.45	Kaiser + 2003
NGC 5845	25.9	234	2.4 (1.0–2.8) e8	0.150	0.111	1.36	Gebhardt + 2003
NGC 7457	13.2	67	3.5 (2.1–4.6) e6	0.053	0.052	1.01	Gebhardt + 2003
IC 1459	29.2	340	2.5 (2.1–3.0) e9	0.661	0.052	12.69	Cappellari + 2002
NGC 2787	7.5	140	4.1 (3.6–4.5) e7	0.248	0.068	3.63	Sarzi + 2001
M 81	3.9	143	7.5 (6.4–9.7) e7	0.76	0.052	14.6	Devereux + 2003
NGC 3245	20.9	205	2.1 (1.6–2.6) e8	0.213	0.068	3.11	Barth + 2001
NGC 4261	31.6	315	5.2 (4.1–6.2) e8	0.146	0.058	2.54	Ferrarese + 1996
NGC 4374	18.4	296	1.6 (0.4–2.8) e9	0.89	0.068	13.1	Bower + 1998
NGC 4459	16.1	186	7.0 (5.7–8.3) e7	0.112	0.068	1.63	Sarzi + 2001
M 87	16.1	375	3.4 (2.5–4.4) e9	1.35	0.043	31.3	Macchetto + 1997
M 87			2.6 (1.8–3.3) e9		0.135	9.98	Harms + 1994
NGC 4596	16.8	152	7.8 (4.5–11.6) e7	0.179	0.068	2.61	Sarzi + 2001
NGC 5128	4.2	150	2.4 (0.7–6.0) e8	2.26	0.205	11.03	Marconi + 2001
NGC 6251	93	290	5.3 (3.7–6.8) e8	0.060	0.050	1.21	Ferrarese + 1999
NGC 7052	58.7	266	3.3 (2.0–5.6) e8	0.071	0.135	0.52	van der Marel + 1998a
NGC 1068	15	151	1.5 e7	0.039	0.008	4.8	Greenhill + 1997a
NGC 4258	7.2	105	3.9 (3.8–4.0) e7	0.44	0.0047	93.	Herrnstein + 1999
NGC 4945	3.7		1.4 e6				Greenhill + 1997b

Parameters – Column 2 is the distance (Tonry et al. 2001). Column 3 is the galaxy's velocity dispersion outside the sphere of influence of the BH. Column 4 is the BH mass $M_\bullet$ with error bars $(M_{\rm low}, M_{\rm high})$ from the sources in Column 8 corrected to the adopted distance. The line with all columns filled in contains the adopted BH mass. Column 5 is the radius of the sphere of influence of the BH, $r_{\rm cusp} = G M_\bullet/\sigma_e^2$. Column 6 is the effective spatial resolution of the spectroscopy (see § 1.3.1). Column 7 is the measure of spatial resolution that shows how much leverage the observations have on the BH detection and mass measurement. Parameters not credited are from Tremaine et al. (2002) or from Kormendy & Gebhardt (2001). Notes on individual objects:

Galaxy: For Ghez (2003) and Schödel et al. (2002), σ_* is the pericenter orbital radius of star S2. Otherwise, it is the radius for the centermost radial bin of stars used in the mass analysis.

M 81 and NGC 4258: $M_\bullet$ is adopted from Bower et al. (2000) and Herrnstein et al. (1999).

NGC 3115: Kormendy & Richstone (1992) provide σ_e. The resolution σ_* for Kormendy et al. (1996a) is based on the size of the nuclear star cluster, not on the *HST* spectroscopy. The corresponding BH mass is given by the virial theorem applied to this nucleus (see their § 6). Anders et al. (2001) modeled published data and their ground-based, integral field spectroscopy. Isotropic models implied $M_\bullet \simeq 10^9\ M_\odot$, consistent with previous results. However, they find that "anisotropic models reduce this to ca. $2 \times 10^7\ M_\odot$." This is inconsistent with our conclusion from the escape velocity argument that $M_\bullet \approx 10^9\ M_\odot$, independent of anisotropy. Therefore, pending publication of the details of the the Anders et al. (2001) preliminary work, I omit this result.

NGC 4374: I adopted $M_\bullet$ from Bower et al. (1998), but the low-$M_\bullet$ error bar includes the value suggested by Maciejewski & Binney (2001).

For the maser galaxies, σ_* is the radius of the innermost maser source used in the analysis.