

BMMFlux output v6.0			
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Col #	Column label	Unit	Explanation
1	Datetime_start	[1]	Start time of averaging interval, center, formatted datetime string
2	Datetime_end	[1]	End time of averaging interval, center, formatted datetime string
3	Datetime_center	[1]	Center time of averaging interval, center, serial matlab format
4	DOY	[1]	Doy of Year, fractional (decimal places = time)
5	z_aero	[m]	Aerodynamic height (z-d), where d=displacement height
6	z_asl	[m]	Elevation
7	lat	[deg]	Latitude
8	lon	[deg]	Longitude
9	utc_offset	[1]	UTC offset
10	zenith	[deg]	Zenith angle of the sun
11	azimuth	[deg]	Azimuth angle of the sun
12	DayNightIndicator	[1]	Day and night indicator: 0=night,0.5=transition (sunrise/ sunset), 1=day
13	#_data	[1]	Number of data in averaging interval
14	#_NaN_uvWts	[1]	Number of flagged or missing data for sonic
15	frc_#iterations	[1]	Number of iterations for spectral frequency correction (Moore correction)
16	u_mean_unrot	ms-1	Wind component x, sonic, unrotated, vectorial mean
17	u_std_unrot	ms-1	Wind component x, sonic, unrotated, vectorial standard deviation
18	u_skew_unrot	(ms-1)^3	Wind component x, sonic, unrotated, vectorial skewness
19	u_kurt_unrot	(ms-1)^4	Wind component x, sonic, unrotated, vectorial kurtosis
20	v_mean_unrot	ms-1	Wind component y, sonic, unrotated, vectorial mean
21	v_std_unrot	ms-1	Wind component y, sonic, unrotated, vectorial standard deviation
22	v_skew_unrot	(ms-1)^3	Wind component y, sonic, unrotated, vectorial skewness
23	v_kurt_unrot	(ms-1)^4	Wind component y, sonic, unrotated, vectorial kurtosis
24	w_mean_unrot	ms-1	Wind component z (vertical), sonic, unrotated, vectorial mean
25	w_std_unrot	ms-1	Wind component z (vertical), sonic, unrotated, vectorial standard deviation
26	w_skew_unrot	(ms-1)^3	Wind component z (Vertical), sonic, unrotated, vectorial skewness
27	w_kurt_unrot	(ms-1)^4	Wind component z (Vertical), sonic, unrotated, vectorial kurtosis
28	phi	[deg]	Wind direction
29	U_scalar_mean_unrot	ms-1	Wind horizontal speed, sonic, unrotated, scalar mean
30	U_scalar_std_unrot	ms-1	Wind horizontal speed, sonic, unrotated, scalar standard deviation
31	U_scalar_skew_unrot	(ms-1)^3	Wind horizontal speed, sonic, unrotated, scalar skewness
32	U_scalar_kurt_unrot	(ms-1)^4	Wind horizontal speed, sonic, unrotated, scalar kurtosis
33	Totwndspd_scalar_mean	ms-1	Total wind speed $\sqrt{u^2+v^2+w^2}$, sonic, unrotated, scalar mean
34	Totwndspd_scalar_std	ms-1	Total wind speed $\sqrt{u^2+v^2+w^2}$, sonic, unrotated, scalar standard deviation
35	Totwndspd_scalar_skew	(ms-1)^3	Total wind speed $\sqrt{u^2+v^2+w^2}$, sonic, unrotated, scalar skewness
36	Totwndspd_scalar_kurt	(ms-1)^4	Total wind speed $\sqrt{u^2+v^2+w^2}$, sonic, unrotated, scalar kurtosis
37	alpha	[deg]	Coordinate rotation: 1st rotational angle to align coordinate system with mean wind
38	beta	[deg]	Coordinate rotation: 2nd rotational angle to force mean vertical wind to zero
39	u_mean_rot	ms-1	Wind component, along-wind, rotated, mean
40	frc_fact_uu	[1]	Spectral frequency correction factor applied to standard deviation
41	u_std_rot	ms-1	Wind component, along-wind, rotated, standard deviation
42	u_skew_rot	(ms-1)^3	Wind component, along-wind, rotated, skewness
43	u_kurt_rot	(ms-1)^4	Wind component, along-wind, rotated, kurtosis
44	v_mean_rot	ms-1	Wind component, cross-wind, rotated, mean
45	frc_fact_vv	[1]	Spectral frequency correction factor applied to standard deviation
46	v_std_rot	ms-1	Wind component, cross-wind, rotated, standard deviation
47	v_skew_rot	(ms-1)^3	Wind component, cross-wind, rotated, skewness
48	v_kurt_rot	(ms-1)^4	Wind component, cross-wind, rotated, kurtosis
49	w_mean_rot	ms-1	Wind component, vertical, rotated, mean
50	frc_fact_ww	[1]	Spectral frequency correction factor applied to standard deviation
51	w_std_rot	ms-1	Wind component, vertical, rotated, standard deviation
52	w_skew_rot	(ms-1)^3	Wind component, vertical, rotated, skewness
53	w_kurt_rot	(ms-1)^4	Wind component, vertical, rotated, kurtosis
54	U_scalar_mean_rot	ms-1	Wind horizontal speed, sonic, rotated, scalar mean
55	U_scalar_std_rot	ms-1	Wind horizontal speed, sonic, rotated, scalar standard deviation
56	U_scalar_skew_rot	(ms-1)^3	Wind horizontal speed, sonic, rotated, scalar skewness
57	U_scalar_kurt_rot	(ms-1)^4	Wind horizontal speed, sonic, rotated, scalar kurtosis
58	Ts_mean	C	Sonic temperature, mean
59	frc_fact_TsTs	[1]	Spectral frequency correction factor applied to standard deviation
60	Ts_std	C	Sonic temperature, standard deviation
61	Ts_skew	(C)^3	Sonic temperature, skewness
62	Ts_kurt	(C)^4	Sonic temperature, kurtosis
63	p_ref	[kPa]	Reference pressure, barometric
64	T_ref	[C]	Reference temperature
65	rho_air	[kg m-3]	Density of dry air
66	E	[kPa]	Saturation vapor pressure
67	frc_fact_uw	[1]	Spectral frequency correction factor applied to covariance
68	uw	[m2 s-2]	Covariance u'w'
69	frc_fact_vw	[1]	Spectral frequency correction factor applied to covariance
70	vw	[m2 s-2]	Covariance v'w'
71	u*	[m s-1]	Friction velocity = $\sqrt{\overline{u'w'}^2 + \overline{v'w'}^2}$
72	tau	[kg s-2 m-1]	momentum flux
73	TKE_mean	[m2 s-2]	turbulence kinetic energy = $0.5*(u^2+v^2+w^2)$
74	TKE_we	[m2 s-3]	turbulence transport term of the TKE budget
75	uTs	[K m s-1]	Covariance u'Ts'
76	vTs	[K m s-1]	Covariance v'Ts'
77	frc_fact_wTs	[1]	Spectral frequency correction factor applied to covariance
78	wTs	[K m s-1]	Covariance w'Ts', kinematic buoyancy flux
79	rho*cp	[J m-3 K-1]	Heat flux coefficient, standard conditions
80	H	[W m-2]	Buoyancy flux, energetic
81	L	[m]	Obukhov length computed using buoyancy flux w'Ts'
82	zeta	[1]	z/L

83	itc_u	[1]	Integral turbulence characteristic, along-wind component, $\text{std}(u)/u^*$
84	itc_v	[1]	Integral turbulence characteristic, cross-wind component, $\text{std}(v)/u^*$
85	itc_w	[1]	Integral turbulence characteristic, vertical wind component, $\text{std}(w)/u^*$
86	itc_Ts	[1]	Integral turbulence characteristic, sonic temperature, $\text{std}(T_s)/T^*$, $T^*=w'T_s'/u^*$
87	ti_u	[1]	Turbulence intensity, along-wind component, $\text{std}(u)/U$, U =mean horizontal wind speed
88	ti_v	[1]	Turbulence intensity, cross-wind component, $\text{std}(v)/U$, U =mean horizontal wind speed
89	ti_w	[1]	Turbulence intensity, vertical wind component, $\text{std}(w)/U$, U =mean horizontal wind speed
90	#_lag_wTs	[1]	Used time lag for buoyancy flux
91	uuu	[m3 s-3]	Triple-order moment: along-wind transport of along-wind variance
92	uuv	[m3 s-3]	Triple-order moment: cross-wind transport of along-wind variance
93	uww	[m3 s-3]	Triple-order moment: vertical transport of along-wind variance
94	vvu	[m3 s-3]	Triple-order moment: along-wind transport of cross-wind variance
95	vvv	[m3 s-3]	Triple-order moment: cross-wind transport of cross-wind variance
96	vww	[m3 s-3]	Triple-order moment: vertical transport of cross-wind variance
97	www	[m3 s-3]	Triple-order moment: along-wind transport of vertical-wind variance
98	wwv	[m3 s-3]	Triple-order moment: cross-wind transport of vertical-wind variance
99	www	[m3 s-3]	Triple-order moment: vertical transport of vertical-wind variance
100	TTT	[K3]	Triple-order moment: temperature
101	TTw	[K2 m s-1]	Triple-order moment: vertical transport of temperature variance
102	Tww	[K m2 s-2]	Triple-order moment: vertical transport of kinematic vertical heat flux