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Table 3 Coefficients associated with the collisional moments of first, second, and third degree in Table 1 in the special cases of (i) inelastic and perfectly smooth particles ($\alpha < 1, \beta = -1$) and (ii) elastic and perfectly rough particles ($\alpha = \beta = 1$).

From: [Granular Gas of Inelastic and Rough Maxwell Particles](#)

Coefficient	(i) Inelastic and perfectly smooth ($\alpha < 1, \beta = -1$)	(ii) Elastic and perfectly rough ($\alpha = \beta = 1$)
$\varphi_{01 01}$	0	$\frac{4}{3(1 + \kappa)}$
$\chi_{20 20}$	$\frac{1 - \alpha^2}{6}$	$\frac{4\kappa}{3(1 + \kappa)^2}$
$\chi_{20 02}$	0	$-\frac{\kappa}{4}\chi_{20 20}$
$\psi_{20 20}$	$\frac{(1 + \alpha)(4 - \alpha)}{15}$	$\frac{2(3 + 10\kappa)}{15(1 + \kappa)^2}$
$\psi_{20 02}$	0	$\frac{\kappa}{8}\chi_{20 20}$
$\chi_{02 02}$	0	$\chi_{20 20}$
$\chi_{02 20}$	0	$-\frac{4}{\kappa}\chi_{20 20}$
$\psi_{02 02}$	0	$\psi_{20 20}$
$\psi_{02 20}$	0	$\frac{2}{\kappa}\chi_{20 20}$
$\psi_{11 11}$	$\frac{1 + \alpha}{6}$	1
$\varphi_{30 30}$	$\frac{(1 + \alpha)(19 - 11\alpha)}{60}$	$\frac{2(2 + 15\kappa)}{15(1 + \kappa)^2}$

Coefficient	(i) Inelastic and perfectly smooth ($\alpha < 1, \beta = -1$)	(ii) Elastic and perfectly rough ($\alpha = \beta = 1$)
$\varphi_{30 12}$	0	$-\frac{\kappa}{8}\chi_{20 20}$
$\varphi_{12 30}$	0	$-\frac{2}{\kappa}\chi_{20 20}$
$\varphi_{12 12}^{(1)}$	$\psi_{11 11}$	$\frac{7 + 10\kappa + 15\kappa^2}{15(1 + \kappa)^2}$
$\varphi_{12 12}^{(2)}$	0	$\frac{2(2 + 5\kappa)}{15(1 + \kappa)^2}$
$\varphi_{12 12}^{(3)}$	0	$\chi_{20 20}$
$\varphi_{12 12}^{(4)}$	0	$\frac{1}{2}\chi_{20 20}$
$\varphi_{12 12}^{(1)-}$	$\psi_{11 11}$	1
$\varphi_{12 12}^{(2)-}$	0	0
$\varphi_{12 12}^{(3)-}$	0	$\frac{2(4 + 15\kappa)}{15(1 + \kappa)^2}$
$\varphi_{12 12}^{(4)-}$	0	$-\frac{1}{10\kappa}\chi_{20 20}$
$\varphi_{12 12}^{(5)-}$	0	$-\frac{2(1 + 5\kappa)}{15(1 + \kappa)^2}$

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