θ_L [degree]	a [mm]	b [mm]	$R \cdot \Delta\Omega$ [mm·sr]
15	2.60	2.60	1.83×10^{-3}
20	2.60	2.60	1.62×10^{-3}
25	2.60	2.60	1.42×10^{-3}
30	2.60	2.60	1.24×10^{-3}
35	2.60	2.48	1.09×10^{-3}
40	2.44	2.23	9.73×10^{-4}
45	2.20	2.04	8.84×10^{-4}
50	2.02	1.90	8.16×10^{-4}
55	1.88	1.78	7.63×10^{-4}
60	1.77	1.70	7.22×10^{-4}
65	1.68	1.63	6.90×10^{-4}
70	1.62	1.57	6.65×10^{-4}

Table 1: Peeping regions of double slits, a and b, and effective solid angles in experiments for CH_4 target

θ_L [degree]	a [mm]	b [mm]	$n(x) \cdot R \cdot \Delta\Omega$ [mm·sr]
20	7.50	7.50	4.51×10^{-2}
25	7.50	7.50	4.12×10^{-2}
30	7.50	7.50	3.76×10^{-2}
35	7.50	7.40	3.45×10^{-2}
40	7.50	6.77	3.18×10^{-2}
45	7.50	6.29	2.95×10^{-2}
50	7.29	5.91	2.76×10^{-2}
55	6.69	5.61	2.61×10^{-2}
60	6.22	5.38	2.48×10^{-2}
65	5.86	5.21	2.39×10^{-2}
70	5.57	5.09	2.31×10^{-2}

Table 2: Peeping regions of double slits, a and b, and effective solid angles concerning the target density distribution in experiments of C_{60} target

atoms	Z_eff	a_F[Å]	$f(Z_1, Z_2)$	a_c[Å]
He-C	19.80	0.190	0.714	0.136
Ne-C	31.49	0.148	0.793	0.118
Ar-C	44.78	0.132	0.841	0.111
Xe-C	96.00	0.102	0.981	0.100

Table 3: The parameters of the Molière potential function

beam atom(energy)	λ [$\times 10^{-4}$Å]
He(4keV)	22.71
Ne(3.2keV)	11.35
Ar(4225eV)	6.987
Ar(10keV)	4.542
Xe(9818eV)	2.523

Table 4: The de Broglie wavelengths for each incident atom

beam atom	Z_1	a_1	a_2 [Å]	a_3 [Å]
Ne	10	0.148 $\pm$0.00898	0.182 $\pm$0.00832	0.0741 $\pm$0.00637
Ar	18	0.148 $\pm$0.00898	0.254 $\pm$0.00610	0.0503 $\pm$0.00190
Xe	54	0.148 $\pm$0.00898	0.390 $\pm$0.00783	0.0363 $\pm$0.00380

Table 5: The parameters of $S(r)$ function as the result of fitting

atoms	Z_{eff}	$Q_{Moliere}$	$Q_{Experiments}$
Ne-C	31.49	31.49	29.37
Ar-C	44.78	44.78	44.54
Xe-C	96.00	96.00	96.00

Table 6: The results of the integrated values of electron density distribution in Figure 43