

$$\dot{\rho}_{33} = -\Gamma_3 \rho_{33} - 2 \operatorname{Im} \left[\tilde{\Omega}_3 \left(1 + \frac{i}{q_3} \right) \rho_{31} \right] - 2 \operatorname{Im}(\Omega_{32} \rho_{32}), \quad (3)$$

$$\dot{\rho}_{21} = - \left[i\delta_2 + \frac{\gamma_1 + \Gamma_2}{2} \right] \rho_{21} - i\tilde{\Omega}_2 \left[\left(1 - \frac{i}{q_2} \right) \rho_{11} - \left(1 + \frac{i}{q_2} \right) \rho_{22} \right] - i\Omega_{32}^* \rho_{31} + i\tilde{\Omega}_3 \left(1 + \frac{i}{q_3} \right) \rho_{23}, \quad (4)$$

$$\dot{\rho}_{31} = - \left[i\delta_3 + \frac{\gamma_1 + \Gamma_3}{2} \right] \rho_{31} - i\tilde{\Omega}_3 \left[\left(1 - \frac{i}{q_3} \right) \rho_{11} - \left(1 + \frac{i}{q_3} \right) \rho_{33} \right] - i\Omega_{32}^* \rho_{21} + i\tilde{\Omega}_2 \left(1 + \frac{i}{q_2} \right) \rho_{32}, \quad (5)$$

$$\dot{\rho}_{32} = - \left[i(\delta_3 - \delta_2) + \frac{\Gamma_2 + \Gamma_3}{2} \right] \rho_{32} - i(\Omega_{32}^* \rho_{22} - \Omega_{32} \rho_{33}) - i\tilde{\Omega}_3 \left(1 - \frac{i}{q_3} \right) \rho_{12} + i\tilde{\Omega}_2 \left(1 + \frac{i}{q_2} \right) \rho_{31}. \quad (6)$$

In the text following the equations, $\delta_1 = \omega - \bar{\omega}_1$ should be replaced by $\delta_2 = \bar{\omega}_2 - \omega$, $\delta_2 = \omega - \bar{\omega}_2$ by $\delta_3 = \bar{\omega}_3 - \omega$, $\bar{\omega}_1$ by ω_2 , and $\bar{\omega}_2$ by $\bar{\omega}_3$, so that they are consistent with the labeling in Fig. 1 as well as Tables I and II. The equations with the correct signs were employed in the calculations. These misprints were first pointed out to us by Salvatore Basile and independently by Shi-Yao Zhu.

We have in the meantime discovered an error in Eq. (7). The definition of \dot{n} given in that equation is not correct in general, but only for $q_j \gg 1$. The generally correct expression should read

$$\dot{n} = 2 \sum_{j=2}^3 \operatorname{Im} \left[\tilde{\Omega}_j \left(1 - \frac{i}{q_j} \right) \rho_{j1} \right] - \gamma_1 \rho_{11}. \quad (7)$$

In the sentence following Eq. (7) the generally correct identification should be changed from $\dot{n} \sim -(\dot{\rho}_{22} + \dot{\rho}_{33} - \dot{\rho}_{11})$ to $\dot{n} \sim \dot{\rho}_{11}$.

This correction does not alter the conclusions of the paper, but it does alter somewhat the range of detunings (listed in Tables I and II) where the gain is positive. The change is favorable in the sense that the range of detuning for positive gain is larger and the value of the gain increased somewhat.

We will present more detailed discussions and calculations on this issue in our next paper.

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Erratum: Collisional ionization and excitation of H₂: Two-electron processes [Phys. Rev. A 42, 1367 (1990)]

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Because of a calibration error, the cross sections published in this paper are approximately a factor of 2 too high. The relative values of the cross sections as reflected in the energy dependence are unaffected. Tables I and II should be replaced by the ones below. The analysis of the data remains the same.

TABLE I. Double-ionization cross sections of H₂ by electrons and protons oriented at 90° relative to the projectile direction.

Projectile (keV/amu)	σ^{2+} (10^{-20} cm ²)	
	Electrons	Protons
350	22.4±3.4	20.5±3.1
400	21.7±3.2	17.2±2.6
500	15.2±2.3	12.0±1.8
750	13.6±2.0	6.60±1.00
1000	10.1±1.5	4.41±0.65
1500	7.92±1.20	2.81±0.42
2000	4.94±0.73	2.22±0.34
2500	4.20±0.63	1.75±0.26
3000	3.43±0.52	1.35±0.20
3500	3.01±0.45	1.14±0.17

TABLE II. Ionization plus excitation cross sections of H_2 by electrons and protons oriented at 90° relative to the projectile direction.

Projectile (keV/amu)	$(\sigma^+)^* (10^{-20} \text{ cm}^2) \pm 15\%$					
	Electrons			Protons		
	$2s\sigma_g$	$2p\sigma_u$	$2p\pi_u$	$2s\sigma_g$	$2p\sigma_u$	$2p\pi_u$
350	53.7	106	44.5	28.3	71.5	34.4
400	51.0	97.9	41.7	25.6	55.5	24.7
500	35.8	77.6	31.5	20.4	45.6	20.4
750	34.6	67.2	23.2	13.7	29.6	12.4
1000	25.7	54.2	20.7	10.1	22.9	10.1
1500	21.0	39.2	13.9	7.60	15.6	6.20
2000	11.6	24.4	8.28	6.05	12.4	4.65
2500	9.27	19.2	5.99	5.55	10.1	3.17
3000	7.61	15.0	4.48	4.24	9.15	3.17
3500	6.51	12.3	3.70	3.52	7.60	2.41

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Erratum: Virtual photons and causality in the dynamics of a pair of two-level atoms
[Phys. Rev. A 42, 4291 (1990)]

A. K. Biswas, G. Compagno, G. M. Palma, R. Passante, and F. Persico

Reference 1 should read

¹P. W. Milonni and P. L. Knight, Phys. Rev. A **10**, 1096 (1974).

We apologize for the unfortunate mistake.

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