

1 Liste de publications

1. E. de Prunelé and J. Pascale
Theoretical model for the collision of high Rydberg atoms with neutral atoms or molecules.
Journal of Physics B : Atomic and Molecular Physics, 12, 2511 (1979).
2. E. de Prunelé
Some asymptotic properties of hydrogen-like states and on the use of the correspondence principle.
Journal of Physics B : Atomic and Molecular Physics, 13, 3921 (1980).
3. M. Hugon, P.R Fournier and E. de Prunelé
Quenching collisions of rubidium in the nS Rydberg levels with helium.
Journal of Physics B : Atomic and Molecular Physics, 14, 4041 (1981).
4. E. de Prunelé
Application of the Faddeev-Watson expansion to thermal collisions of Rydberg atoms with neutral particles.
Physical Review A, 27, 1831 (1983).
5. E. de Prunelé
Three-term recursion relations for hydrogen wave functions : Exact calculations and semiclassical approximations.
Journal of Mathematical Physics, 25, 472 (1984).
6. E. de Prunelé
Orientation effects in thermal collisions between "circular" Rydberg states and ground state helium.
Physical Review A, 31, 3593 (1985).
7. E. de Prunelé
Influence of an external field on thermal collisions between "circular" Rydberg states and ground state helium.
Physical Review A, 33, 3554 (1986). *Brief Report*.
8. E. de Prunelé
Coulomb and Coulomb-Stark Green function approach to adiabatic Rydberg energy levels of alkali-metal-helium systems.
Physical Review A, 35, 496 (1987).
9. E. de Prunelé
Coulomb Green-function approach to adiabatic Rydberg energy levels : Generalization to multichannel cases.
Physical Review A, 36, 3015 (1987).
10. E. de Prunelé
SU(1,1), its connections with SU(2), and the vector model.
Journal of Mathematical Physics, 29, 2523 (1988).
11. E. de Prunelé
SU(1,1) and the vector model for continuous bases.
Journal of Mathematical Physics, 30, 1965 (1989).
12. E. de Prunelé
 $o(4,2)$ group theoretical expression of the interelectronic Coulomb potential.
Journal of Mathematical Physics, 30, 2891 (1989).
13. E. de Prunelé
 $o(4,2)$ operator replacements for highly excited atomic states.
Physical Review A, 42, 2322 (1990).
14. E. de Prunelé
 $o(4,2)$ coherent states and hydrogenic atoms.
Physical Review A, 42, 2542 (1990).

15. E. de Prunelé
Doubly excited states with zero angular momentum and electron in opposite directions.
Physical Review A, 44, 90 (1991).
16. E. de Prunelé
First-order perturbation theory and resonance energies of two electron atoms.
Physical Review A, 45, 2070 (1992). *Brief Report*.
17. E. de Prunelé
Schrödinger equation for two-electron atoms expressed in terms of symmetric sparse matrices involving only $O(4,2)$ representations.
Physical Review A, 45, 2757 (1992).
18. E. de Prunelé
Helium doubly excited states with zero angular momentum and electrons located on the same side of the nucleus.
Physical Review A, 46, 2344 (1992).
19. I. A. Ivanov and E. de Prunelé
Two-electron atoms : $o(4,2)$ operator replacements and large order perturbation theory with respect to the replaced kinetic operator.
Physical Review A, 49, 184 (1994).
20. E. de Prunelé
 $o(4,2)$ operator replacements : geometrical interpretation.
International Journal of Theoretical Physics, 35, 1297 (1996).
21. E. de Prunelé
Some aspects of $o(2,1)$ and some applications of $o(4)$ and $o(4,2)$ to atomic physics.
International Journal of Modern Physics A, 12, 89 (1997).
22. E. de Prunelé
Power series with rational coefficients for two-electron atom energies.
International Journal of Quantum Chemistry, 63, 1079 (1997).
23. E. de Prunelé
Solvable model for three-dimensional quantum scattering of a particle off several separable interactions centered at n arbitrary points.
Journal of Physics A : Mathematical and General, 30, 7831 (1997).
24. E. de Prunelé
Solvable model for multicenter scattering
Physics of Atomic Nuclei (Yadernaya Fizika) 61,1983 (1998).
25. X. Bouju and E. de Prunelé
Size and shape effects on electronic energy levels : from infinite to nanoscopic Systems in three-dimensional space.
Physica Status Solidi b 217, 819, (2000).
26. E. de Prunelé and X. Bouju
Fibonacci, Koch, and Penrose Structures : Spectrum of Finite Subsystems in Three-Dimensional space.
Physica Status Solidi b 225, 95, (2001).
27. E. de Prunelé
Penrose structures : Gap labeling and geometry.
Physical Review B, 6, 094202, (2002).
28. E. de Prunelé
Conditions for bound states in a periodic linear chain, and the spectra of a class of Toeplitz operators in terms of polylogarithm functions.
Journal of Physics A : Mathematical and General, 36, 8797 (2003).

29. E. de Prunelé
Time evolution of wave packets on nanostructures.
Journal of Physics A : Mathematical and General, 38, 4843 (2005).
30. E. de Prunelé
Solvable quantum mechanical model in two-dimensional space.
Journal of Physics A : Mathematical and General, 39, 12469-12487 (2006).
31. E. de Prunelé
Linear strain tensor and differential geometry.
American Journal of Physics, 75 (10), 881-887 (2007).
32. E. de Prunelé
The hard sphere quantum propagator : exact results via partial wave analysis
Journal of Physics A : Mathematical and Theoretical, 41, 255305 (2008).
33. E. de Prunelé
Normalization of states for a quantum magnetic circular billiard
Physical Review A, 79, 044502 (2009).
34. E. de Prunelé
Asymptotic properties, $|m| \rightarrow \infty$, of Landau states in the cylindrical gauge
Physical Review A, 80, 025401 (2009).
35. E. de Prunelé
Critical points for a one-dimensional Schrödinger operator with finite number of point delta-interactions and number of eigenvalues
Journal of Physics A : Mathematical and Theoretical, 43, 285303 (2010).
36. E. de Prunelé
Critical points for finite Fibonacci chains of point delta-interactions and orthogonal polynomials
Journal of Physics A : Mathematical and Theoretical, 44, 425302 (2011).
37. E. de Prunelé
Discrete symmetries, spectra, degeneracies, cross sections : a toy model with interactions centred at the vertices of Platonic solids
Journal of Physics A : Mathematical and Theoretical, 45, 135303 (2012).
38. E. de Prunelé
Quantum circular billiards : further analytical results
Physica E, 53, 59 (2013).
39. E. de Prunelé
Bound states for two dimensional Schrödinger equation with anisotropic interactions localized on a circle
Journal of Mathematical Physics, 56, 022103, 2015
40. E. de Prunelé
Two-dimensional quantum scattering by non-isotropic interactions localized on a circle, applications to open billiards
Journal of Mathematical Physics, 59, 102102, 2018