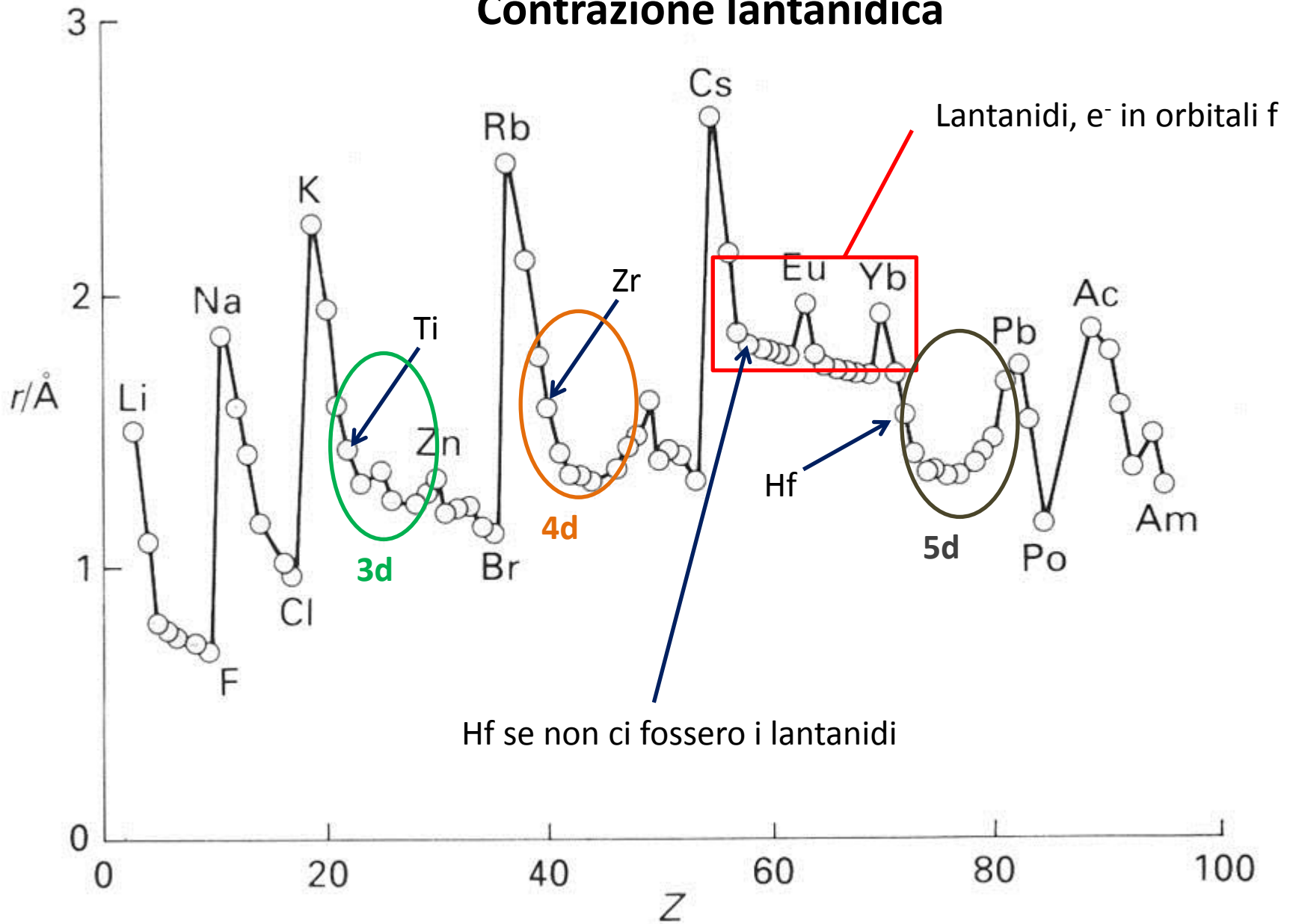


# Contrazione lantanidica



# Contrazione lantanidica porta con sé delle anomalie:

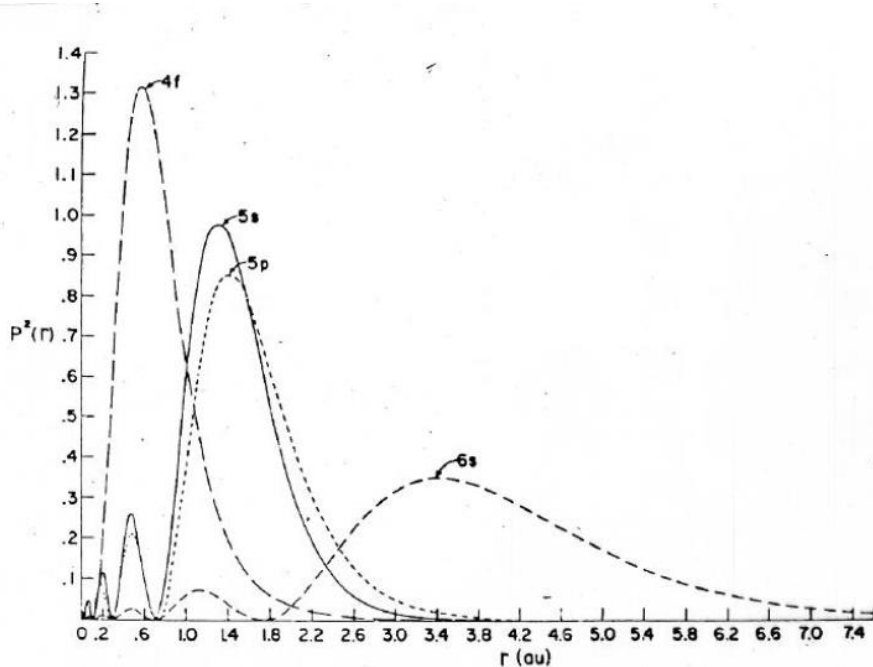
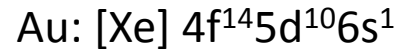
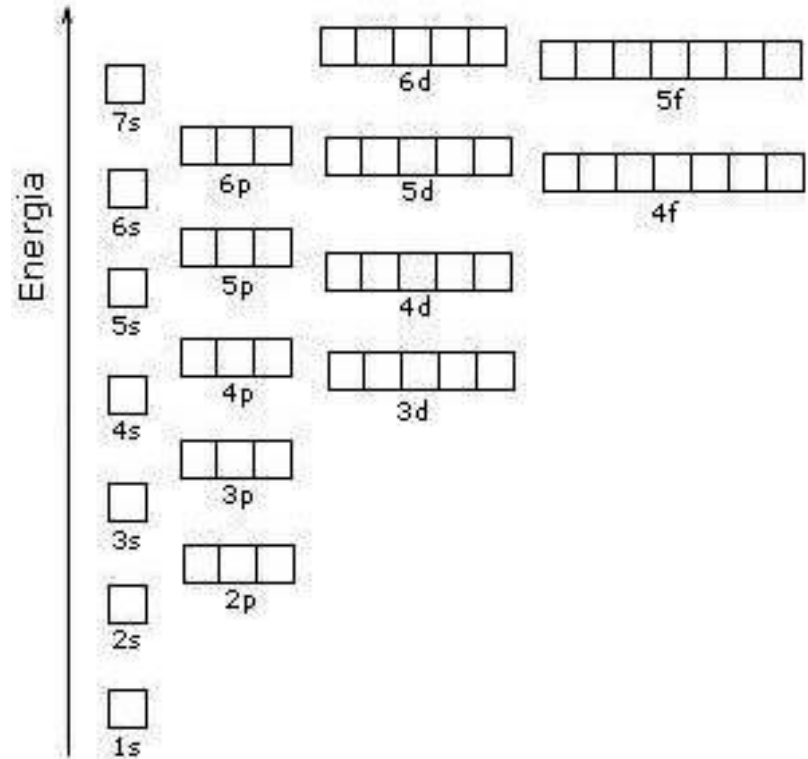


Fig. 7. Square of the radial wavefunction times the squared radius for the 4f, 5s, 5p, and 6s electrons in  $Gd^{3+}$  [FrWa62]. For  $RE^{3+}$  ions this picture will be contracted somewhat because of the larger effective nuclear charge.



Perdita elettroni 5d nonostante il sottolivello sia pieno!

$Au(III)$  esiste  $Ag$  e  $Cu(III)$  NO! Quindi stati di ossidazione più alti per gli elementi 5d.

$Cu(III)$  sarebbe un buon ???

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	H																	He
2	Li	Be											B	C	N	O	F	Ne
3	Na	Mg											Al	Si	P	S	Cl	Ar
4	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
5	Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe
6	Cs	Ba		Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn
7	Fr	Ra																

Elettroni 5d debolmente legati al nucleo, facilmente si perdono (es. Pt(IV) e Au(III))

La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu
Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lw