## LATEX 学习笔记

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### 第一章 入门

#### 1.1 您好, I₄T<sub>E</sub>X

#### 1.2 基本语法和结构

IFT<sub>E</sub>X 源文件的语句可以分为 3 种: 1: 命令(Command)、2: 数据、3: 注释(Comment)。命令又分为普通命令和环境(Environment)。普通命令以"\" 起始,大多只有一行;而

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第一部分

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### 1.3 元素周期表

1s 配	2p	3 <sub>p</sub>		<sup>4</sup> ₽		<sup>2</sup> ⊫		d9 <b>版</b>		77	<u> </u>
$^2_{ m He}$ 第 $^{ m Helium}$	2p 10 2p Neon	$egin{array}{c c} & & & & & & & & & & & & & & & & & & &$	Argon 39.948(1)	4p 36 3.00 点 是 Kr 氪	Krypton 83.798(2)	5p 54 2.60 E	Xenon 131.293(6)	$_{^{6p}}$ $_{^{86}}$ $_{^{2.2}}$ $_{^{6}}$ $_{^{8}}$ $_{^{Radon}}$	(222)	Og	Oganesson (294)
	$\frac{2p}{\mathbf{F}} = \frac{3.98}{3.98} = \frac{2p}{2p}$	3p 17 3.16 3p CI 氨	Chlorine 35.446-35.457	4p 35 2.96 4p I Br 溴	Bromine	5p 53 2.66 5p 5 I 碘	Iodine 126.90447(3)	85 <u>2.2</u> <b>At </b> 模	(210)	$r_p \frac{7p}{117}$ Ts	Tennessine (294)
	8 3.44 <b>O 氧</b>	16 2.58 S 硫	Sulphur 32.059–32.076	34 2.55 Se 碩	Selenium 78.971(8)	5p 52 2.1 5p 5 Te 碲	Tellurium 127.60(3)	Po 5	(209)	116 Lv 釣	Livermorium (293)
	$2p$ $\overline{}$	16 14.00643-14.00728 3p 15 2.19 3p P 6 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Phosphorus 30.973761998(5)	33 2.18 <b>As</b> 碩	Arsenic 74.921595(6)	Sb 镜	Antimony 121.760(1)	83 2.02 <b>Bi 钡</b>	208.98040(1)	114 7p 115 7p Fl 鈇 Mc 镆	Moscovium (289)
	2p 6 2.55 2p C 張	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Silicon 28.084-28.086	32 2.01 Ge 铦	Germanium 72.630(8)	$\begin{bmatrix} 5p & 50 & \underline{1.96} & 5p \\ \mathbf{Sn} & 59 \end{bmatrix}$	Tin 118.710(7)	6p 82 1.87 6p Pb 铅	207.2(1)		Flerovium (289)
1115	5 2.04 2p <b>B</b> 4 4 1 Boron	$\frac{10.806-10.821}{13 1.61 3p}$ <b>Al 铝</b>	Aluminium 26.9815385(7)	31 1.81 Ga 锭	Gallium 69.723(1)	49 1.78 In 铟	Indium 114.818(1)	81 1.62 <b>T1 铊</b>	204.382-204.385	113 Nh	Nihonium (286)
表				30 1.65 3d Zn 锌	Zinc 65.38(2)	48 1.69 Cd \$	Cadmium 112.414(4)	l H₹⇒	200.592(3)	1112 Cn	Copernicium (285)
荆				$\frac{29}{\mathbf{Cu}}$ 3 $d^*$	Copper	$\frac{4d^*}{47} \frac{47}{1.93} \frac{1.93}{4d^*}$	Silver 107.8682(2)	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	196.966569(5)	$\frac{6d}{2}$ $\mathbf{Rg}$ 錀	Roentgenium (282)
町				28 1.91 3d Ni 镍	Nickel 58 6934(4)	$\frac{46}{2.20}$	Palladium 106.42(1)	$\frac{78 \cdot 2.28}{2.28} \cdot 5d^*$	195.084(9)	110 Ds 鉱	Darmstadtium (281)
#	ab- andard			27 1.88 3d Co 钴	Cobalt 58.933194(4)	$\frac{45}{Rh}$ :	Rhodium 102.90550(2)	5d 77 2.20 5d <b>Ir † † k</b>	192.217(3)	$\begin{bmatrix} 6d & 109 & 6d \\ \end{bmatrix}$ $\mathbf{Mt}$ 錢	Meitnerium (278)
比	$\operatorname{gativity}$ ; $\operatorname{ss} = \operatorname{s}$ $\operatorname{name}$ , $\operatorname{saw} = \operatorname{st}$			26 <u>1.83</u> 3 <i>d</i> Fe 铁	Iron 55.845(2)	$\frac{4d}{2}$ 44 $\frac{2.2}{2}$ $\frac{4d^*}{2}$ 등	Ruthenium 101.07(2)	### s	190.23(3)	$\begin{bmatrix} 6d & 108 & 6d \\ \mathbf{Hs} & \Box \end{bmatrix}$	Hassium (269)
	eg = electronegme = element 1			$\frac{25}{\mathrm{Mn}}$ 話	Manganese	$\frac{43}{10}$ $\frac{1.9}{4}$ $\frac{4d}{10}$	Technetium (98)	${f Re}$ ${f Re}$ 第	186.207(1)	$\begin{bmatrix} 6d & 107 & 6d \\ \mathbf{Bh} & \Box \end{bmatrix}$	Bohrium (270)
	$Z={\rm atomic\ number; eneg}={\rm electronegativity;  ss}={\rm subshell;  Sy}={\rm Symbol,  Name}={\rm element\ name,  saw}={\rm standard}$ atomic weight			$\frac{24}{\text{Cr}} \frac{1.66}{48} 3d^*$	Chromium M. 9961(6)	$\frac{40 \frac{1.33}{1.33}}{2r} \frac{4d}{8} \frac{41 \frac{1.6}{1.6}}{1.6} \frac{4d^*}{8} \frac{42 \frac{2.16}{2.16}}{1.6} \frac{4d^*}{8}$	Molybdenum 95.95(1)	73         1.5         5d         74         2.36         5d         75         1.9         5d         76         2.22           Ta 针         W         特         Re         株         Os         S           Towards         Towards         Towards         Towards         Openium         Openium	183.84(1)	$\stackrel{6d}{\square}$ $\stackrel{106}{\operatorname{Sg}}$ $\stackrel{6d}{\square}$	Seaborgium (269)
	Z = atomic ms shell; $Sy = Sy$ atomic weight			$rac{23}{\sqrt{50}}$ $rac{1.63}{3}$ $3d$	Vanadium 50.9415(1)	$\frac{41}{Nb}$ 紀	Niobium 92.90637(2)		180.94788(2)	9 🗆	Dubnium (268)
	$egin{array}{cccccccccccccccccccccccccccccccccccc$	Saw		$\frac{22}{Ti}$ 3d	Titanium	40 1.33 4 <i>d</i> <b>Zr</b> 锆	Zirconium 91.224(2)	$\frac{72}{\mathrm{Hf}}$ $\frac{1.3}{\mathrm{ff}}$ $\frac{5d}{\mathrm{Ta}}$ $\frac{1.5}{\mathrm{Hg}}$	178.49(2)	$egin{array}{cccccccccccccccccccccccccccccccccccc$	Rutherfordium (261)
		_		$rac{48}{51}$ $rac{1.36}{25}$ $rac{3d}{22}$ $rac{1.54}{1.54}$ $rac{3d}{2}$ $rac{16.3}{24}$ $rac{3d}{24}$ $rac{1.66}{1.65}$ $rac{3d^2}{34}$ $rac{1.65}{26}$ $rac{3d}{26}$ $rac{1.65}{26}$ $rac{3d}{26}$ $rac{1.65}{26}$ $rac{3d}{26}$ $rac{1.65}{26}$ $rac{3d}{26}$ $rac{1.88}{26}$ $rac{3d}{26}$ $rac{1.28}{26}$ $rac{3d}{29}$ $rac{1.29}{29}$ $rac{3d}{29}$ $rac{1.20}{29}$ $rac{3d}{29}$ $rac{1.20}{20}$ $rac{3d}{29}$ $rac{1.20}{20}$ $rac{3d}{29}$ $rac{1.20}{20}$ $rac{3d}{29}$ $rac{1.20}{20}$ $rac{3d}{20}$ $rac{1.20}{20}$ $rac{3d}{20}$ $rac{1.20}{20}$ $rac{3d}{20}$ $rac{1.20}{20}$ $rac{1.20}$ $rac{1.20}{20}$ $rac{1.20}{20}$ $rac{1.20}{20}$ $rac{1$	Scandium 44.955908(5)	5s       39       1.22       4d       40       1.33       4d       41       1.6       4d*       42       2.16       4d*       43       1.9         思       Y       Zr       ff       Nb       ff       Nb       ff       Nc       ff       Tc	Yttrium 88.90584(2)	<u>₩</u>		78 89-103 雷	Actinides
	4 1.57 2s <b>Be</b> 铍	$\frac{12 - 1.31 - 3s}{Mg 镁$	Magnesium 24.304–24.307		Calcium 40.078(4)	38 <u>0.95</u> 5s Sr 観	Strontium 87.62(1)	56 <u>0.89</u> 6s <b>Ba 钡</b>	137.327(7)		Radium (226)
. 2.20 1s H 氢	1.00754-1.00811 3 0.98 2s 4 1.57 Li 锤 Be thium	LI 0.93     38     12     1.31     38       Na 钠     Mg 镁	Sodium 22.98976928(2)	$f{K}$ 钟 $f{Ca}$	Potassium	$\frac{37 + 0.82 + 5s}{10.82}$ $\frac{38 + 0.95}{10.92}$ $\mathbf{Rb}$ $\mathbf{m}$	Rubidium 85.4678(3)	55 0.79 6s Cs 铯	132.90545196(6)	$\frac{87}{2}$ $\frac{0.7}{7}$ $\frac{78}{8}$ $\frac{0.9}{0.9}$	Francium (223)

Lu 镥 (a) 174.9668(1) 5f 103 1.3 5f 括 No 锘 Tm 铥 Yb 镱 
 5f 100 13 5f 101 13 5f 102 13

 **7** Fm 镄 Md 钔 No 锌
 Thulium Er 铒 Ho 钬 Dy 镝 Bk 錇 Tb 铽 
 5f
 96
 1.28
 5f\*
 97

 镅
 Cm
 锔
 ]
 Gd 钆 Gadolinium Eu 铕 Pu 钚 Am 镅 Europium 5f\* 93 1.36 5f\* 94 1.28 5f 95 1.13 Sm 钐 4f **62** 1.17Np 镎 Nd 钕 Pm 钷 91 1.5 5f\* g Pa 镤 Pr 镨  $\frac{90 \cdot 1.3}{\text{Th}} \frac{5f^*}{\text{EL}}$ Ce 铝 Thorium  $\mathbf{Ac}$  1.1  $6d^*$  9  $\mathbf{Ac}$  4阿  $\mathbf{57} \frac{1.1}{\mathbf{La}} \mathbf{5}d^*$ 智外

相对原子质量来源: (http://ciaaw.org/atomic-weights.htm).. © 2017 张洋

An asterisk (\*) next to a subshell indicates an anomalous (Aufbau rule-breaking) ground state electron configuration.