Overview of elements defined by `cernchemsym.sty`

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The present document describes the `cernchemsym` package, which implements a command `\Isotope` similar to the `\isotope` command of Heiko Bauke's `isotope` package. The `\Isotope` command is used to implement command sequences for each of the elements in the periodic table (similar to Mats Dahlgren's `chemsym` package).

1 Typesetting isotope names

Isotopes are characterized by the number of protons and the total numer of nucleons they contain. For instance, uranium has three naturally occurring isotopes:

$^{234}_{92}$U (`\Isotope[234][92]{U}`),
$^{235}_{92}$U (`\Isotope[235][92]{U}`), and
$^{238}_{92}$U (`\Isotope[238][92]{U}`).

Another example, which shows the three variants of the `\Isotope` command, is hydrogen, H (`\Isotope{H}`), which has an atomic weight of 1.00794, and consists of two naturally occurring isotopes: ^{1}H (`\Isotope[1]{H}`) for 99.985% and $^{2}_{1}$H (`\Isotope[2][1]{H}`), also known as deuterium, for the remaining 0.015%.

Another example from the field of neutrino physics shows that the `\Isotope` command can also be used inside mathematics mode.

$$ {}^{18}_{10}\mathrm{Ne} \rightarrow {}^{18}_{9}\mathrm{F}^{-}\, \mathrm{e}^{+}\, \nu_{\mathrm{e}} \,. $$

```
\[ \Isotope[18][10]{Ne} \rightarrow \Isotope[18][9]{F}^{-} \,
   \mathrm{e}^+ \, \nu_{\mathrm{e}} \]
```

2 Element names

The present package provides commands for typesetting all elements in the periodic table. Each commands starts with an uppercase 'E' (for 'Element'). the remaining one or two letters correspond to the international abbreviation of the element in question[1]. The complete list follows.

`\EAc`	Ac	actinium	`\EAl`	Al	aluminium	`\EAm`	Am	americium
`\ESb`	Sb	antimony	`\EAr`	Ar	argon	`\EAs`	As	arsenic
`\EAt`	At	astatine	`\EBa`	Ba	barium	`\EBk`	Bk	berkelium
`\EBe`	Be	beryllium	`\EBi`	Bi	bismuth	`\EB`	B	boron
`\EBr`	Br	bromine	`\ECd`	Cd	cadmium	`\ECa`	Ca	calcium
`\ECf`	Cf	californium	`\EC`	C	carbon	`\ECe`	Ce	cerium
`\ECs`	Cs	cesium	`\ECl`	Cl	chlorine	`\ECr`	Cr	chromium
`\ECo`	Co	cobalt	`\ECu`	Cu	copper	`\ECm`	Cm	curium
`\EDb`	Db	dubnium	`\EDy`	Dy	dysprosium	`\EEs`	Es	einsteinium
`\EEr`	Er	erbium	`\EEu`	Eu	europium	`\EFm`	Fm	fermium
`\EF`	F	fluorine	`\EFr`	Fr	francium	`\EGd`	Gd	gadolinium

[1] Mats Dahlgren's `chemsym` package uses the element symbol as command name so that a few clashes with existing commands, such a `\H`, `\O`, `\S`, and `\P`, etc., had to be resolved *ad hoc*.

\EGa	Ga	gallium	\EGe	Ge	germanium	\EAu	Au	gold
\EHf	Hf	hafnium	\EHe	He	helium	\EHo	Ho	holmium
\EH	H	hydrogen	\EIn	In	indium	\EI	I	iodine
\EIr	Ir	iridium	\EFe	Fe	iron	\EKr	Kr	krypton
\ELa	La	lanthanum	\ELr	Lr	lawrencium	\EPb	Pb	lead
\ELi	Li	lithium	\ELu	Lu	lutetium	\EMg	Mg	magnesium
\EMn	Mn	manganese	\EMd	Md	mendelevium	\EHg	Hg	mercury
\EMo	Mo	molybdenum	\ENd	Nd	neodymium	\ENe	Ne	neon
\ENp	Np	neptunium	\ENi	Ni	nickel	\ENb	Nb	niobium
\EN	N	nitrogen	\ENo	No	nobelium	\EOs	Os	osmium
\EO	O	oxygen	\EPd	Pd	palladium	\EP	P	phosphorus
\EPt	Pt	platinum	\EPu	Pu	plutonium	\EPo	Po	polonium
\EK	K	potassium	\EPr	Pr	praseodymium	\EPm	Pm	promethium
\EPa	Pa	protactinium	\ERa	Ra	radium	\ERn	Rn	radon
\ERe	Re	rhenium	\ERh	Rh	rhodium	\ERb	Rb	rubidium
\ERu	Ru	ruthenium	\ERf	Rf	rutherfordium	\ESm	Sm	samarium
\ESc	Sc	scandium	\ESe	Se	selenium	\ESi	Si	silicon
\EAg	Ag	silver	\ENa	Na	sodium	\ESr	Sr	strontium
\ES	S	sulfur	\ETa	Ta	tantalum	\ETc	Tc	technetium
\ETe	Te	tellurium	\ETb	Tb	terbium	\ETl	Tl	thallium
\ETh	Th	thorium	\ETm	Tm	thulium	\ESn	Sn	tin
\ETi	Ti	titanium	\EW	W	tungsten	\EU	U	uranium
\EV	V	vanadium	\EXe	Xe	xenon	\EYb	Yb	ytterbium
\EY	Y	yttrium	\EZn	Zn	zinc	\EZr	Zr	zirconium