

How to improve your resume

I have had the opportunity of reading resumes of many physicists involved in searching for a job. Many could improve their image and their chances by composing more effective resumes. The following suggestions may be helpful.

The purpose of a resume is to provide a concise sketch of the applicant for prospective employers. It serves as an introduction of the candidate and is his "representative." The information contained in the resume is usually used by an employer in a preliminary screening of applicants to identify those he should pursue. A good resume—one which highlights those personal and technical qualifications that show you up best—is needed to pass the initial test. Employers usually follow up by requesting additional information on their "standard form" and/or requesting more detailed information from the applicant.

A good resume presents an applicant's case as forthrightly and faithfully as possible. It should work for him and not against him. Many physicists are prone to "hide their light under a bushel" by giving their education, area of specialization, what they worked on and their publications, leaving their accomplishments and abilities to the reader's imagination. A resume should provide a picture of the applicant's abilities, accomplishments and drive from which an employer can extrapolate to the performance he may expect on the job. Resumes are seldom read or screened by experts in the writer's field. They should be understandable to the non-expert. Highly technical terms should be avoided and concepts should be well organized. The preparation of a resume can also be useful as a method of self-evaluation.

Since a resume represents an individual it should not be stereotyped. It is an opportunity for individual expression and innovation. It should not be too long, and the first page should contain material that will capture the reader's imagination. A person seldom reads beyond the first page unless he finds something of interest. Leave less essential items such as marital status, hobbies and so forth until the end.

Your highest degree, areas of specialization, thesis or project topic and your accomplishments on your thesis or

positions open ...that the employers listed here... equal opportunities... and wish to receive applications from qualified persons regardless of race, national origin, age, or sex.	GEORGIA INSTITUTE OF TECHNOLOGY Atlanta, Georgia Experimental Nuclear physicist needed for low energy neutrino research project. Experience with instrumentation connected with large volume liquid scintillators, and/or cosmic ray experiments is required. Direct inquiries to: T. P. Lang, Experiment Station, Georgia Tech., Atlanta, GA 30332. An Equal Opportunity Employer.
DEPARTMENT OF PHYSICS UNIVERSITY OF WINNIPEG ...doctoral or research associate position is available for work on some of the following topics: NMR and/or EPR of pulsed NMR will be given to an applicant with some knowledge of liquid crystals. ...to: Dr. E. Tomchuk, Department of Physics, University of Winnipeg, Winnipeg, Manitoba, Canada.	Post-doctoral position available in solid state chemistry. Background in crystallography desirable. Research will emphasize preparation and characterization of new materials for electrochemical energy conversion. ... curriculum vitae and reference letters to: Professor Aaron Wold, Department of Chemistry, Brown University, Providence, Rhode Island 02912. Brown University is an Equal Opportunity, Affirmative Action Employer.
University of Nebraska invites applications for a faculty position in experimental atomic physics. Rank and salary will depend on the qualifications of the appointee. Candidates should have post-Ph.D. research experience, preferably in photoionization, or in atomic collisions. Send resume and the names of three references to: Dr. Leo Sartori, Chairman, Department of Physics and Astronomy, University of Nebraska, Lincoln NE 68588. The University of Nebraska is an affirmative action/equal opportunity employer.	GRADUATE ASSISTANTS The Physics Department at Virginia University has several graduate teaching assistantships available for both the Spring and Fall 1976 for students desiring the Ph.D. degree. Tuition free plus \$4,000 per year stipend. Research interests of the department include experimental and theoretical atomic physics, field theory, gas discharge physics, electrostatics, nuclear physics, electrodynamics, astrophysics, and research related studies. Write: Dr. D. V. Vohse, Department of Physics, West Virginia University, Morgantown, W. Va. 26506.

project, or experience should be prominent. Note that action words such as *developed, formulated, verified, invented, constructed, devised* are useful in describing your accomplishments. Evidence of accomplishments provides an impact that protects against burial of your resume in a pile of applications. Ideas, achievements, contributions, solutions to problems, evidence of ability, productivity and creativity should be highlighted. Work activities, nature of work, job responsibilities or project topics should also be included. Information on professional interests and aspirations help round out the professional picture of the candidate on which the employer bases his employment decision. This is best covered in a letter of transmittal, which can be tailored to the known areas of work or interests of the particular employer.

A wide-spread distribution of resumes by a candidate (shotgun approach) is usually not effective and not recommended. A more specifically targeted approach is usually more productive.

Finally the resume should be concise and neat as possible. An indication of number and publication of papers is probably better than an extensive listing.

The following format and resume is suggested although it will not fit every situation:

Name-address-telephone number. If female or minority mention same.

Citizenship status (US citizen, permanent visa or temporary visa)

Highest degree-school-thesis or project (advisor's name as appropriate)

Areas of specialization and experience

Technical contributions

(accomplishments—discoveries—innovation—your potential)

Technical areas of work interest (preferably in letter of transmittal)

Employment summary

(include academic appointments and summer work)

Education

(include degrees, date and institutions)

Activities and awards

scholarship awards—undergraduate class standing (if good) campus activities (particularly leadership positions)—hobbies (may be a point of casual conversation or mutual interest when you get an interview)

Personal-age-marital status, social activities, etc.

References

Availability

RAYMOND W. SEARS

Director

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American Institute of Physics

New York, NY

Article lengths

I wish to encourage AIP to change the reference style used in magazines and journals to include both the first and last page of referenced articles. The principal advantage is to communicate the length of the reference, which is usually required for interlibrary loan/copy requests.

JAY S. HUEBNER

University of North Florida

Jacksonville, Florida

REPLY FROM AIP: Huebner makes a valuable point. Some of the journals published by the American Institute of Physics (for example, J. Acoust. Soc. Am.) already include last page numbers in references, and they are included in most of our computer-generated journal indexes

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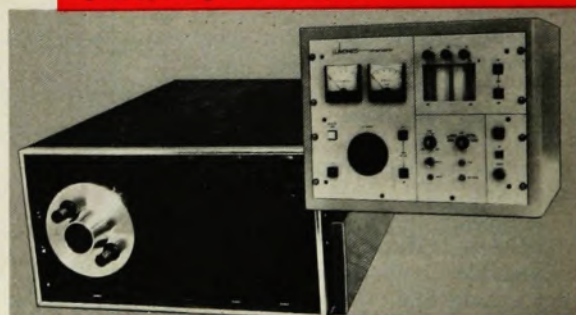
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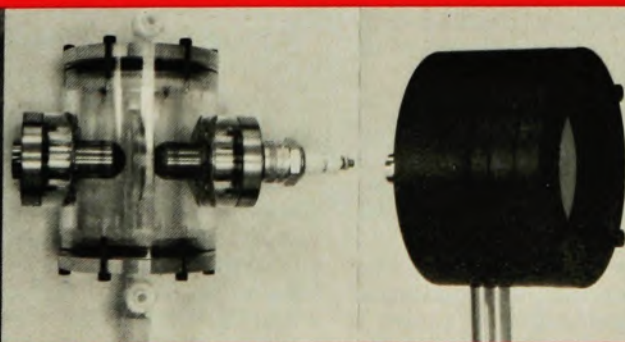
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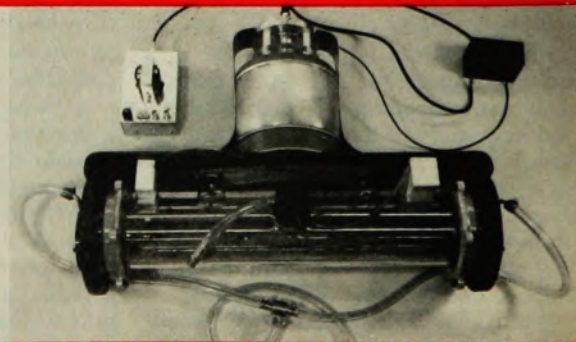
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SERIES TEA-800
● High rep rate multigas line tunable lasers



ACCESSORIES
● Detectors, HV triggers, special options, mounts, etc.



SERIES K-100/200
● Inexpensive CO₂ and multigas TEA laser kits

at the discretion of the journal's editor. In addition, Huebner's letter has led our board of editors (of journals published by AIP and its member societies) at its March 1976 meeting to vote to permit this practice. However, our editorial staff cannot undertake the time-consuming task of supplying last page numbers if they are not given in the author's manuscript. So it will take time (years) until it becomes common practice in the journals.

A. W. K. METZNER

Director

Publications Division

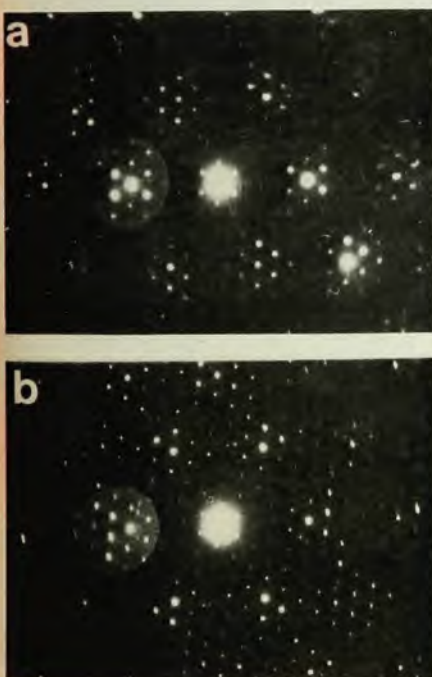
American Institute of Physics

New York, N.Y.

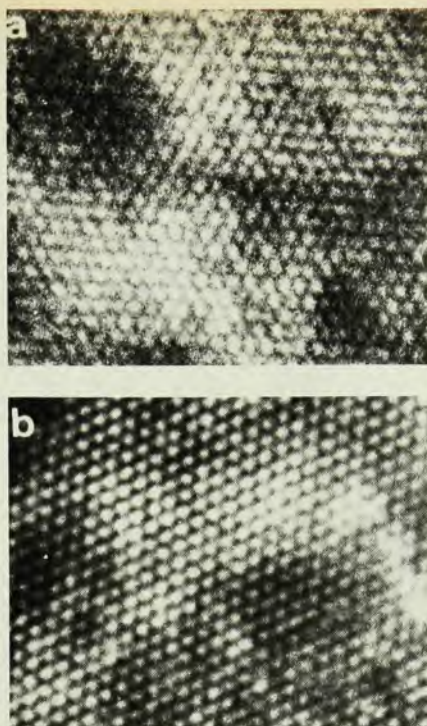
Charge density waves

Your June issue reported on recent experimental evidence for the existence of charge density waves, initially proposed, on theoretical grounds, by A. W. Overhauser for elemental crystals.

The evidence was derived from the observations of incommensurate satellite spots in electron diffraction patterns of the transition metal dichalcogenides: tantalum disulphide^{1,2,3} and tantalum diselenide^{2,3,4} and from neutron diffraction experiments.⁵ On cooling, the incommensurate spots become part of a superlattice; two spots of the basic cadmium-iodide lattice related by a vector $3a_1 + a_2$ become separated by



Electron diffraction pattern of niobium ditelluride (a) exhibiting "irrational," incommensurate diffraction spots. The shadow of the aperture is visible (room temperature). Diffraction pattern of superlattice (b) at low temperature. Figure 1



Incommensurate charge density waves (a) obtained from the diffraction pattern of figure 1a. Superlattice of charge density waves (b) corresponding to diffraction in 1b. Figure 2

13 superlattice interspot spacings.

It has now become possible to image directly the charge density waves in niobium and tantalum ditelluride in the electron microscope.⁶ The room-temperature diffraction pattern of an octahedral polytype of niobium ditelluride is reproduced in figure 1a; at liquid-nitrogen temperature it becomes like figure 1b. At low temperature, the incommensurate waves derived from the diffraction pattern of figure 1a lock into the commensurate superlattice of figure 1b, exhibiting a geometry different from that found in tantalum disulfide and diselenide.

In both niobium and tantalum ditelluride, two spots, related by a vector $3a_1 + 2a_2$, are separated by 19 superlattice interspot spacings. Collecting the beam corresponding to one basic diffraction spot, together with all its satellite beams, due to the charge density waves, allows one to obtain images such as that shown in figure 2a for the incommensurate state and figure 2b for the superlattice state. These images are essentially the Fourier transforms of the diffraction patterns caused by the periodic charge distribution; they can be regarded as direct mappings of the charge density waves.

References

1. J. Van Landuyt, G. Van Tendeloo, S. Amelinckx, *Phys. Stat. Sol.* (a) **26**, 359 (1974) and **26**, 585 (1974).
2. J. A. Wilson, J. DiSalvo, S. Mahajan, *Phys. Rev. Lett.* **32**, 882 (1974); *Adv. in Physics* **24**, 117 (1975).

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