

ASTRONOMY ON THE WEB – THE YUGOSLAV EXPERIENCE

A. ZORKIĆ

*Astronomical Society "Lyra", Rumenačka 129, 21000 Novi Sad, Serbia and Montenegro
E-mail lira@astronomija.co.yu*

Abstract. The widespread of the Internet in our country opened up new possibilities for the local astronomy. Data concerning research from abroad became widely available to all Internet users. It would seem, however, that the net has not yet been exploited to its full potential. Many of the web sites shut down and most have not been updated for a long period of time. In this respect, the Astronomy Magazine remains an exception.

1. INTRODUCTION

Following the web trends, almost every astronomy society in Yugoslavia now has a home page. Also, several independent but very ambitious web sites about astronomy came to life, among those are "The Sun" (Sunce) www.sunce.org.yu, the Astroworld (Astrosvet) www.astrosvet.dk3.com and others.

It is generally considered that the main development of local astronomy web sites, as well as local astronomy itself, is yet to come. As said, Yugoslav astronomy web sites are rarely updated and new content is scarcely added. Internet has not yet been widely implemented in our society and that is one more reason why some of our astronomers don't have personal web sites to publish their work online.

It would also seem that our astronomers often are directed to foreign audiences, instead of domestic ones. This may be because of the poor status that astronomy currently holds in Yugoslavia. There is also an opinion that local astronomy websites don't have a bright future in our country, since all the relevant data can be found on foreign sites, with more accuracy and in more detail.

Because of all this, an astronomy enthusiast from Yugoslavia would rather reach for a foreign site – on a foreign language. Furthermore, some local web sites are published exclusively in English. The long term consequences of this on the development of local astronomy could themselves be a theme for a long study.

It is our opinion, however, that the publication of those books that are turned towards the local audiences, written in mother tongue and that contain local terminology – are of great importance for the local astronomy. It is also our opinion that unless this whole issue is not addressed in a short period of time, we may find ourselves searching for data concerning our own local astronomy on foreign sites, as it is the case with many other areas of our interest. Encyclopedias like Britannica or Encarta, or some US websites for example, often represent the only reliable source when it comes to some domestic themes.

2. THE ASTRONOMY MAGAZINE

The Astronomy magazine represents a true exception when it comes to the local Internet publishing. Considering the poor ranges of local astronomy websites, the AM experience is in many ways a whole Yugoslav experience.

Astronomy Magazine is the only local astronomy online magazine and the largest astronomy website in the country. It is published and updated regularly, once a week, but more often on special occasions. While new content is constantly added, AM continues to speak to the local audience, including the peoples of the former Yugoslavia – with themes of interest for the local astronomy and on a language understandable to the most of the people of the whole region. While it is true that many other foreign websites contain more detailed reading on some astronomy issues than AM, it is our belief that every region, every locality has its own characteristics and our articles and news are shaped to meet the special needs of the local astronomers.

In all this, AM's tracking is, so far, very good.

3. HISTORY

AM came to life with a modest desire to offer the local astronomy enthusiasts data concerning the current sky events. First few issues were made without any insight into the world of web publishing and without a clear conception. Therefore, the Magazine didn't have a strictly defined form (hence the name 'Magazine') and no limitations to content. This proved to be a good formula for the spontaneous development of the magazine.

AM appeared in November, 1998. and in the following year it acquired its first regular readers and contributors. It was the year of experience and knowledge gains.

It was AM's intention from the very start to offer data relevant to the local astronomy. With this in mind, AM staff contacted all the local astronomy societies and a few professional astronomers. Unfortunately, with the exception of two cases, no replies were received on their part. It was interesting, however, that the much needed support came from neighboring Croatia - from Korad Korlevis and his associates.

In the year 2000. AM continued to grow. New weekly themes were added and the Magazine's database grew, as well as the list of contributors and associates. At the time, the Magazine was located on two US servers, but at the end of 2001. AM relocated to a Yugoslav server and got a Yugoslav web domain. The Magazine was ready to enter it's mature phase.

4. AM TODAY

With its four year experience, AM today is far from its early stages. Judging by its form (weekly issues, regular themes, constant tracking of certain events, regular and growing audience, group of associates, permanent staff) – it is a magazine. However, since all the articles and data are stored by category, linked by subject, and equipped with a site-wide search system – AM is becoming something more – an online encyclopedia of astronomy and related sciences.

AM is made for all readers that can understand the language it is written in. It is logical that most of them are residents of Serbia and Montenegro but AM, whenever

it can, keeps tracking of all astronomy events in all the former countries of Yugoslavia. When it comes to astronomy, AM sees no borders. It is an open magazine.

AM has a wide network of associates from many regions of the country. Also, many of the contributors come from other countries – Macedonia, Croatia, Bosnia and Herzegovina, Canada, Australia and USA.

Magazine authors range from amateurs and enthusiasts to professional astronomers, from students to doctors. More than thirty of them have published one or more articles in our Magazine.

AM has several mailing lists, biggest one of them being "Astronomy", used to forward weekly news from astronomy and related sciences. It is free for all lists with more than 250 members. Also there is a member two way list "YUAM", for astronomers who take an active role in astronomy.

"Telescope" is another of the lists, where members share their experiences regarding astronomical instruments. This list is still in a developing phase.

5. STATISTICS

AM takes up more than 100Mb on its server. Annually, the size is around 30 megabytes per year. The site currently contains more than 2500 html pages, 3500 photos, images and maps, as well as several scripts, applets, etc. Number of inner links is 34500, external 3950.

AM has several mailing lists.

6. VISITS

The number of visits on a web site depends on the quality of the site itself, but also on the exterior factors. One should bear in mind that our country has not seen a lot of modern Internet use, and there are still only a few web surfers, relatively speaking. Also, in spite of its obvious attractiveness, astronomy is yet to become a popular science in this country. The number of those interested in political themes, sport, computers and other similar themes still surpasses those interested in astronomy. Therefore, political and news sites, sports and computer online magazines still have an unsurpassed visit count.

AM cannot compare with mentioned sites and must be content with a lower visits score. Our country is no exception to this, after all.

However, AM's daily visits are in a constant ascent. From 10 visitors a day in the '99. we have reached several hundred of daily visits today. This is a direct consequence of both the Magazines activities and the rise of standard in our country. ISP's are offering better Internet connections, such as cable links, and people have more resources to invest in knowledge. According to Eutelnet (www.eutelnet.com) AM was (in November) on the 286th place by the number of visits in Yugoslavia (and 511598th in the world).

Table 1: A statistical overview of AM's visits from December 2001. to the middle of November 2002.

Summary by Month										
Month	Daily Avg					Monthly Totals				
	Hits	Files	Pages	Visits	Sites	KBytes	Visits	Pages	Files	Hits
Nov 2002	7378	6101	2635	339	5294	984921	6455	50080	115921	140197
Oct 2002	7644	6300	2609	412	9792	1655357	12795	80904	195325	236981
Sep 2002	6833	5529	2263	382	8003	1441984	11472	67901	165889	205003
Aug 2002	5904	4831	2178	284	6631	1400598	8828	67528	149763	183052
Jul 2002	5237	4262	1637	240	5753	1122356	7462	50774	132126	162373
Jun 2002	4877	3952	1559	202	4687	1002463	6081	46792	118569	146318
May 2002	4989	4211	1846	206	4797	1030451	6409	57234	130571	154676
Apr 2002	4609	3760	1607	189	3769	922232	5672	48218	112802	138291
Mar 2002	3524	2821	990	165	3567	745958	5121	30709	87470	109271
Feb 2002	3799	2974	1206	164	3199	681691	4616	33785	83292	106372
Jan 2002	2904	2352	921	145	3063	563233	4497	28555	72916	90038
Dec 2001	2115	1642	603	111	2325	425052	3471	18706	50924	65567
Totals						11976296	82879	581186	1415568	1738139

7. ACTIONS

AM has, from the start, established a special relationship with all its readers, and keeps contact with many of them. In a way, AM became a focal point for astronomy amateurs of this country. Some of the activities outside of the magazine itself resulting from this. Several lectures in Novi Sad, two astronomy camps and several observation actions were organized by AM staff. Also, AM was the organizer for the Messier marathon in our country in the years 2001. and 2002. Astronomy camp in Fruska Gora showed the unsatisfied need, especially in young people, for astronomy.

8. PROJECTS

AM has a network of associates, and is in constant contact with several astronomers, both amateur and professional. This allows for several astronomy projects other than the publication of the Magazine. One of these is the development of an astronomy dictionary, and its realization requires the involvement of both amateurs and professionals.

At the beginning of the year a test project, the observation of variation of light of the Algol star, was conceived and it involved observers from Serbia, Macedonia, Croatia and Canada. Bad weather obstructed the full realisation of the project, but from the organizational point, it was successful and it showed that AM can organize several observers from different countries for an observational plan.

9. PLANS

There are inner and outer factors that will form the future of AM. The inner factors are tied to the magazine and its associates. Improving the database and keeping tracking of the astronomy events, are some of the plans. Reactivating the discussion forums and reactivation of the chat channel "Astronomy" is the next on our 'to do' list. The "Astronomy" channel gave the opportunity to our readers to chat with known astronomers, but we estimate that it didn't nearly satisfy their appetite.

By the end of the year a sub-site named "Little Astronomy" and intended for school children, is to be published online.

Outer factors can endow AM a bigger capacity. Observations from Hungary and Croatia show that with the increase of life standard and the modernization of these countries, amateur astronomy experienced its fast growth. If the plans of developing the net infrastructure in this country live up to the hype, and the life standard continues to grow – web surfing will continue to grow as well. We expect some changes in the way astronomy is popularized, and we can, even now, see some results in this area. Number of telescopes in Yugoslavia has increased more in this year alone than in the whole decade before, new astronomy societies and astronomy study groups in schools are formed and there is a favourable attitude towards the development and popularization of astronomy among the professional astronomers. This will, of course, influence the development of other astronomy websites in this country.

The influences of these outer factors on AM are hard to predict, but we expect the future with optimism.

10. CONCLUSION

From all of the above, several conclusions can be made, but I would point out the following:

Experiences of AM show that, despite the economical and other difficulties we live in, with good organization and hard work – it is possible to have an active interest in astronomy and achieve relevant results. In spite of the poverty still present in this country, there still are unused resources. One of them are the people themselves, young and educated people with access to computers and the net, interested in astronomy, some of them good observers with telescopes. All they need is good organization and a chance to take part in astronomy projects. Good results, in that case, are ensured.